TAC Vista Product Catalog

Issue: October 2008

Make the most of your energy

Schneider Electric

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About TAC

Open Systems for Building IT®

Global Leader in Building IT

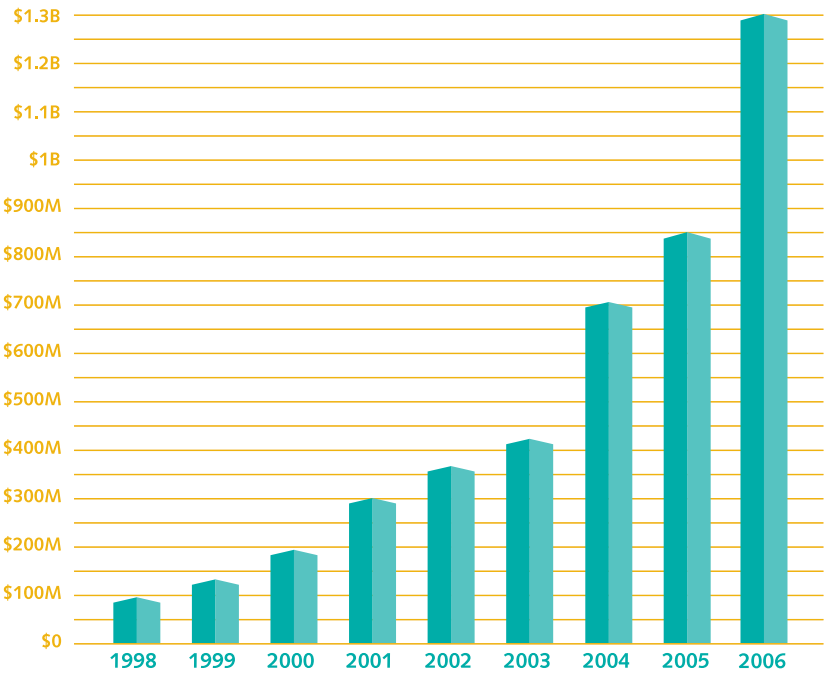
Ratheon, St. Petersburg, Florida, USA

TAC is a leading provider of building automation solutions based on Open Integrated Systems for Building IT. TAC's mission is to provide added value through building environment services for indoor climate, security and use of energy, delivered with advanced technology to end users and property owners throughout the world. With over 80 years of experience in the HVAC, building automation and security arenas, TAC employs more than 5,000 people worldwide, with partners and branches in 80 countries. TAC's parent company, Schneider Electric, is the world leader in automation and electricity management, with over 90,000 employees worldwide and operations in 130 countries.

TAC is the fastest-growing, most innovative company in the building automation industry. We are at the forefront of growth because we deliver what our customers want, year after year, building after building.

WHAT MAKES TAC THE LEADER?

- Fastest-growing, most innovative in the industry
- Delivering "customer for life" services and benefits
- Taking open, integrated systems to a new level
- Technical and market leadership
- World-class market representation



Capricorn Building, Düsseldorf, Germany

THE ADVANTAGES OF "OPEN INTEGRATED SYSTEMS FOR BUILDING IT"

Our open, standard technology enables you to integrate heating and cooling, access control, security monitoring, ventilation, fire and smoke control and lighting, across your enterprise. This approach reduces training and maintenance costs, increases energy savings, and adds value by collecting and sharing vast amounts of pertinent facility and financial data, which helps you run a more profitable building. You have full control of an entire building — or multiple buildings, or each room in each building — from a single user interface. Better control translates directly into such benefits as savings, flexibility, security, reduced expenses, more attractive properties and user-friendly operation. Even employee productivity improves, because people feel and function better as a direct result of improved indoor climate.

Open systems also provide the freedom to create new innovative solutions. Because we use standard, non proprietary technology such as TCP/IP, LonWorks®, BACnet® and Ethernet, our solutions are compatible with virtually all systems on the market, and can fully integrate on one network. This gives you more options and prevents you from being locked in with any one vendor's technology.

HOW DO WE DELIVER OUR SOLUTIONS?

We deliver solutions through a world-class organization that covers all continents. We are proud to claim premier systems integrators as our partners to market. Along with our branch offices, they deliver solutions throughout the world, tailored to the needs of each facility, region and industry.

Support and Energy Optimization

We are committed to supporting our customers' facilities and to ensuring optimum energy performance throughout the entire life-cycle of their buildings.

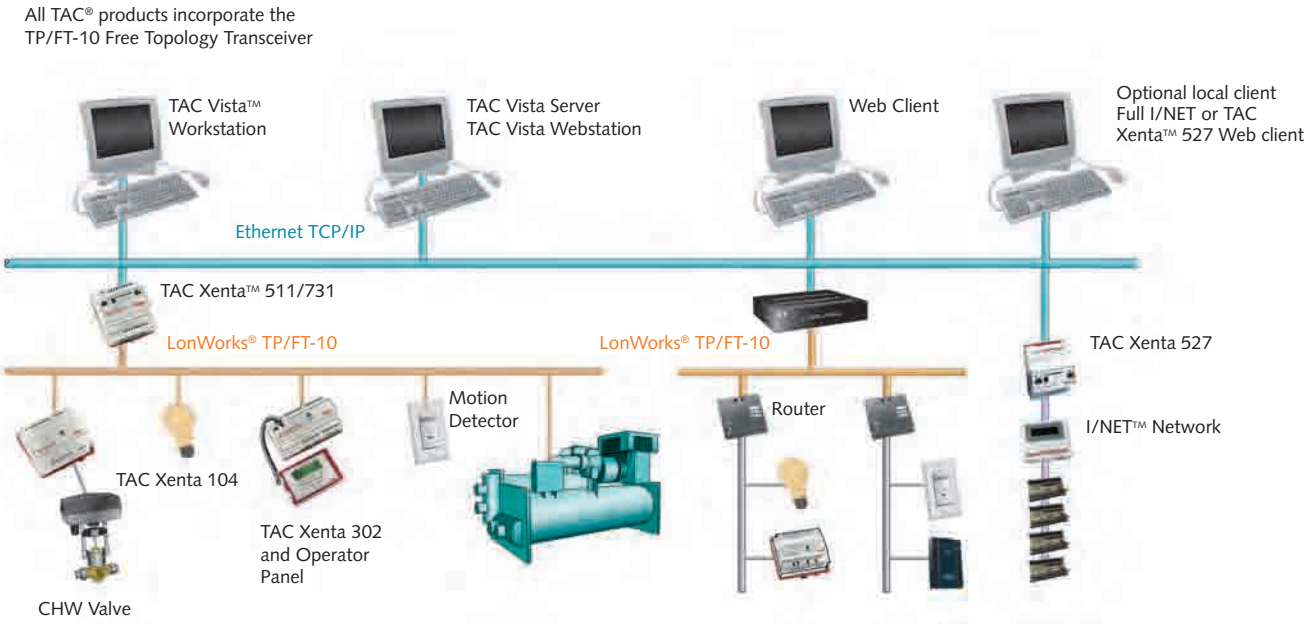
We offer a comprehensive range of vital monitoring, energy efficiency and support services tailored to your specific operational needs, including:

- A full array of performance contracting services
- Energy efficiency programmes that address all aspects of energy use
- 24/7 telephone support and remote management services
- Low cost and no cost energy conservation measures
- Comprehensive user training
- Technical help desk
- Software upgrades and migration paths
- Adjustment and optimization of installed systems
- Regular inspection and function testing
- Call-out maintenance

System Overview

Providing Solutions Enabled by Open Systems for Building IT®

VISTA SYSTEM ARCHITECTURE



TAC VISTA INTEROPERABLE OPEN SYSTEMS CREATE SEAMLESS INTEGRATION

To satisfy the accelerating building control requirements of today's building owners and occupants, the controls industry focuses on information technology for building management – Building IT.

By merging communications, data collection, information sharing and networking into a single, interoperable system, TAC Vista creates efficient, economical building control solutions that fit seamlessly with other products based on open system architecture.

Combining industry-standard technology with an easy-to-use interface, TAC Vista produces an integrated building management solution that is reliable, flexible and cost-effective. Full integration of environmental control as well as facility and energy management in a single software package allow you to customize TAC Vista for any building and security management application.

OPEN SYSTEM FOR OPEN CHOICE

TAC Vista is based on totally open architecture, which gives customers freedom of choice in selecting products from a wide range of suppliers, yielding true vendor independence. TAC Vista runs on Microsoft® Windows® with standard LAN communication on Ethernet® or fiber optics using TCP/IP and standard network equipment. Field bus communication features the open LonWorks® technology, which is used by more than 3,000 vendors worldwide.

National Physical Laboratory, United Kingdom

TCP/IP OFFERS A VARIETY OF NETWORKING ARCHITECTURE OPTIONS

Using TCP/IP, TAC Vista host workstations can communicate across the Internet and existing commercial WAN/LANs.

TAC VISTA'S FLEXIBLE ARCHITECTURE MAKES IT HIGHLY SCALABLE

TAC Vista is eminently suited for any building management application, regardless of the building size, the number of buildings or what distances separate the buildings. TAC Vista manages multi-campus office parks and district-wide school systems just as efficiently as single, small office buildings.

YOU WILL ALWAYS KNOW WHAT IS HAPPENING WITHIN YOUR CONTROL SYSTEM

Alarms and historical logs provide system monitoring that is both reliable and flexible. TAC Vista operators can respond to critical alarms in seconds. The receipt of an alarm can even automatically display a specific system page, giving the operator quick, graphical access to the situation.

TAC VISTA

TAC Vista is the software solution that efficiently controls, checks and analyzes the daily operation and economical running of a building. TAC Vista is available in a variety of packages designed to maximize efficiency and economy. TAC Vista is also modular, making it easy to expand the system as your needs change. Also, TAC Vista is available in an increasing number of languages.

TAC VISTA SERVER AND WORKSTATION

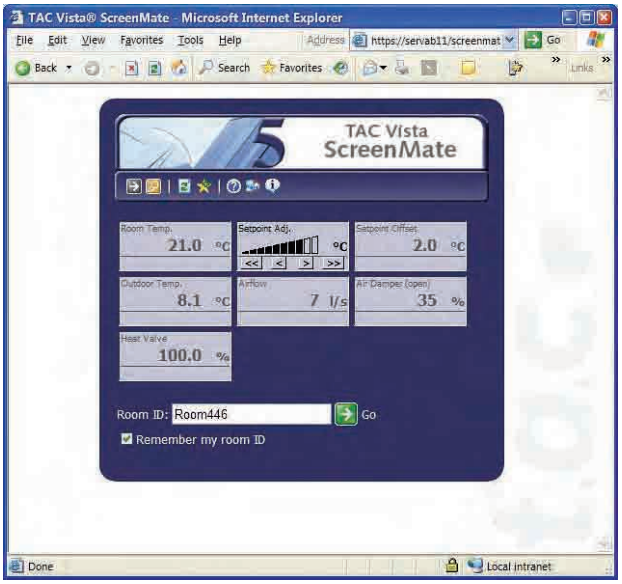
TAC Vista Server provides access to the environmental and security controls for operator workstations, and is the primary operator interface to the control system. It displays daily operations through a graphical user interface, providing operators with ready access to alarms, historical logs and sophisticated data trend logs as well as standard and custom reports.

TAC VISTA WEBSTATION

Webstation allows access to the control system using common web browsers. Using any web browser, users can navigate their site, view graphics and trend charts and manage alarms. Webstation provides access to trace events in the system, and the Webstation server provides access to periodic or automatic reports.

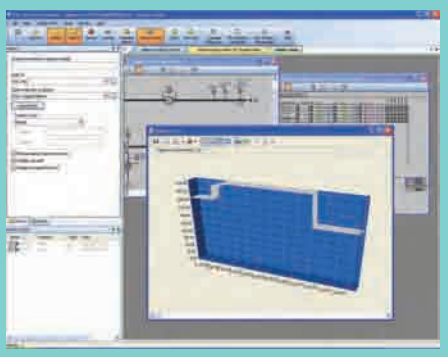
TAC VISTA SCREENMATE

The main task of the TAC Vista ScreenMate is to replace the functionality found in sophisticated room thermostats. ScreenMate makes it possible for users to read and make personal changes to settings such as the room temperature setpoint or to view the outside air temperature directly from the user's PC. The ScreenMate solution is based on standard web technologies and can be accessed from any client device with a web browser.

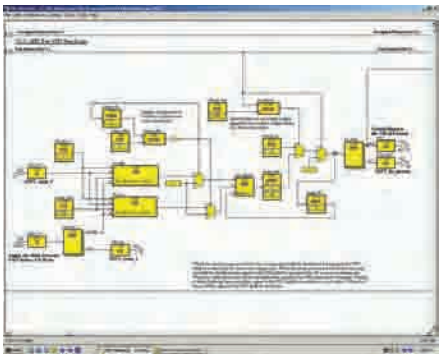


Control your environment from your desktop

Monitor all aspects of how your building operates



Analyze to improve building performance



TAC MENTA™

TAC Menta is the programming software tool for the TAC Xenta™ controllers. You will save time and improve operational reliability with this engineering tool for HVAC applications.

TAC Menta:

- Provides many pre-programmed function blocks and basic application elements
- Monitors offline simulations and online testing with an integrated trend log

TAC XENTA

All TAC Xenta controllers provide open, future-proof system architecture. TAC Xenta controllers provide access to a standardized LonWorks®-based network technology supporting a flexible control system to which components from other manufacturers can be connected.

The TAC Xenta 100 line consists of LonMark®-certified zone controllers designed for specific applications such as fan coil, VAV, chilled ceiling and rooftop air handling units.

The TAC Xenta 280 and 300 series of LonMark®-certified programmable controllers are intended for any type of plant room control applications.

The LonMark®-certified TAC Xenta 401 controller and the TAC Xenta 400 I/O modules are programmable and intended for larger applications.

The TAC Xenta 511 is a cost-effective method of monitoring small-scale LonWorks-based networks. The TAC Xenta 511 works like any web server, making it easy to monitor and control operations over the Internet.

The TAC Xenta 911 is an Ethernet communication device that lets you communicate with your LonWorks network over TCP/IP.

The TAC Xenta 913 is a multi-protocol gateway bridging the gap between different protocols and communication technologies – e.g. linking BACnet™, MODBUS® or M-bus to LonWorks.

The TAC Xenta 527 is a cost-effective method of integrating the I/NET security system into TAC Vista.

The TAC Xenta 700 series is a multifunctional presentation and control system with an embedded web server that allows you to access your control application and control networks via a web browser any time and anywhere in the world.

Software

TAC Vista 5

Vista 5 Packages

The TAC Vista software suite is delivered in the following software installation packages:

- TAC Vista Standalone
- TAC Vista Standard
- TAC Vista Manager
- TAC Vista Professional
- TAC Vista Enterprise

Please refer to the table below for the package contents.

Software		Packages				
Part. No.	Title	Standalone (0-008-8200-0)	Standard (0-008-8201-0)	Manager (0-008-8202-0)	Professional (0-008-8203-0)	Enterprise (0-008-8204-0)
0-008-8220-0	Workstation	▼	▼	▼	▼	▼
0-008-8221-0	Graphics Editor OGC				▼	▼
0-008-8222-0	Graphics Editor TGML				▼	▼
0-008-8223-0	Report Generator			▼	▼	▼
0-008-8224-0	OPC Tool					
0-008-8225-0	IPCL Editor					
0-008-8226-0	Central IPCL Editor					
0-008-8227-0	Database Generator					
0-008-8228-0	I/NET Integrated					
0-008-8229-0	I/NET Security					
0-008-8230-0	Signature					
0-008-8240-0	Menta 5				▼	▼
0-008-8241-0	XBuilder 5					
0-008-8242-0	ZBuilder					
0-008-8250-0	Vista Server	▼[1]	▼	▼	▼	▼
0-008-8251-0	OPC Client					
0-008-8252-0	System 7					
	Webstation[3]					▼[2]
	ScreenMate[3]					

1) Limited server.

2) Three Client Access Licenses, CALs (0-008-8271-0).

3) See product datasheet for part numbers for various license packages.

Maintenance agreements are available for most TAC Vista software modules (part numbers are given on the following pages). An active maintenance agreement ensures that the licensee has access to any new, minor and major, versions. Maintenance agreements are automatically renewed at the end of each 12 month period. The termination notice is three months.

TAC Vista 5 Server

The TAC Vista 5 Server communicates with TAC Xenta controllers or with any LonWorks® product using SNVTs (Standard Network Variable Types).

Connection for remote monitoring and/or remote control of TAC systems is by a PC LonTalk® adapter or a dedicated/dial-up line. Geographically remote systems can be connected via a modem. Automatic bi-directional dial-up (Auto Dial) is used for requests, changing values and for transferring alarms.

DATA STORAGE KERNEL FOR THE FOLLOWING FUNCTIONS

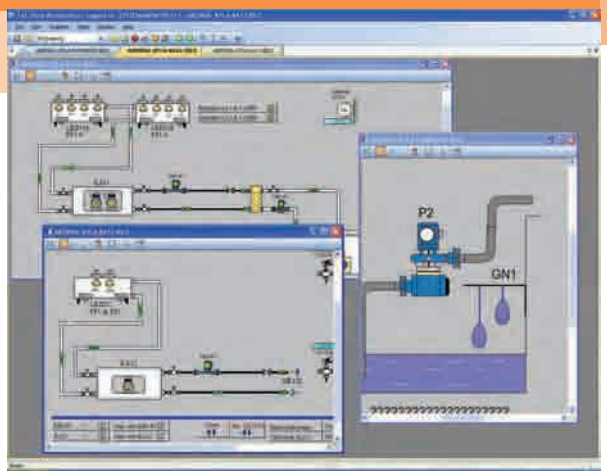
- Network management in a multistation system
- Database Management
- Alarm Handling
- Authority/Security
- Backup
- Scheduling
- Trend Logging
- Event Logging
- Central IPCL
- System Administration

DESCRIPTION

0-008-8250-0 New License
0-008-8350-0 Upgrade
0-008-8450-0 1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details

TAC Vista 5 Workstation



Basic software module with color graphics, alarm handling, authority/security, scheduling, trend logging and data backup functionality.

COLOR GRAPHICS

- Dynamic color graphics
- Display and control
- Hierarchical image links
- Real time data acquisition
- Simultaneous display of several graphics on one screen
- Dynamic trend curves

ALARM HANDLING

- Alarm and status monitoring
- Color-coded alarm display with information text
- Time and/or event-controlled alarm output on one or several printers
- 1000 alarm priority levels
- Real time error message processing
- Alarm interlocking
- Selection and sorting options for alarm summary
- Alarm links to reports, color graphics, trend charts and text files
- Alarm repetition block
- Error report statistics
- Audible and visual alarm reports
- Error report acknowledgement

ACCESS CONTROL

- User identification
- Specified access authorization for all users
- Standby log out function
- Automatic log out function
- Encrypted passwords and NT security

BACKUP

- Seamless recording of all system data

TIME SCHEDULE

- Automatic daylight savings correction
- Automatic leap year function
- Weekly and alternative time programs
- System time synchronization

TREND VIEWER

- Variety of calculation functions
- Time and event controlled activation
- Post editing option of recorded values
- Recording interval of 10 seconds to 10 years
- Dynamic trend curves
- Graphic display and evaluation of online values and trend logs
- Easy operation based on the Microsoft® Windows® standard
- Export of values to other applications such as Microsoft® Excel®
- Variety of graphical presentation options

EVENT VIEWER

- Acquisition and storage of all events that occur in the system (system diary)
- Chronological acquisition of event data within the system when entering date, time, command carried out and the corresponding user
- Recording of events and commands
- Clearly arranged display of event data

SYSTEM DOCUMENTATION

- System configuration
- Process units
- Object list
- Data point list
- Data point checklist
- Fixed values

EXPLORER

- User friendly navigation tool

DESCRIPTION

0-008-8220-0 New License
0-008-8320-0 Upgrade
0-008-8420-0 1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

TAC Vista 5 Report Generator

Software module that independently generates clear and informative reports and overviews, such as alarm and maintenance reports, status reports, trend logging reports as well as special user-defined reports, diagrams and overviews.

- Standard software based on Microsoft® Excel®
- Form and content presentation can be freely configured
- Wide range of options for editing acquired data
- Complete support for Microsoft Excel presentation options such as lines, bars and pie charts
- Report printing on demand, or as scheduled
- Wide range of options for text entry, preparation of graphics and calculation
- Standard formats or customized reports
- Display on screen or printed to one or several printers

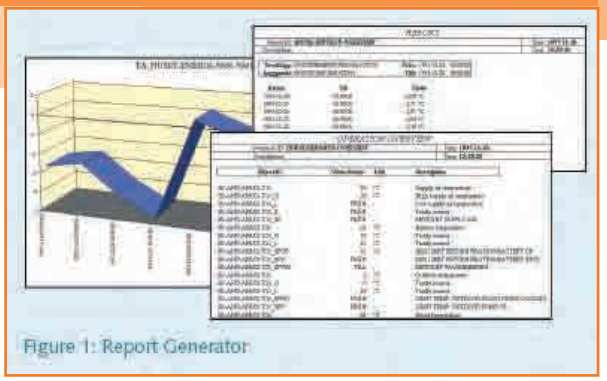


Figure 1: Report Generator

DESCRIPTION

0-008-8223-0 New License
0-008-8323-0 Upgrade
0-008-8423-0 1 Year Maintenance Agreement

TAC Vista 5 Signature

Stand-alone energy management software for the optimal analysis of large data volumes.

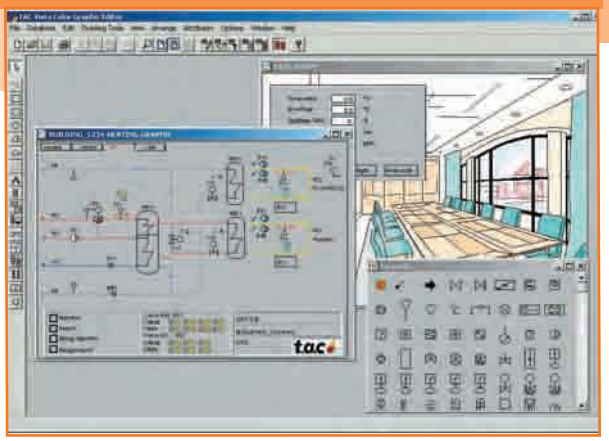
- Dynamic data exchange or manual data entry
- Budget management and control
- Energy profiles
- Energy usage reports
- Degree days calculation
- Consumption can be displayed based on a range of parameters

DESCRIPTION

0-008-8330-0 Upgrade
0-008-8430-0 1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

TAC Vista 5 Graphics Editor OGC



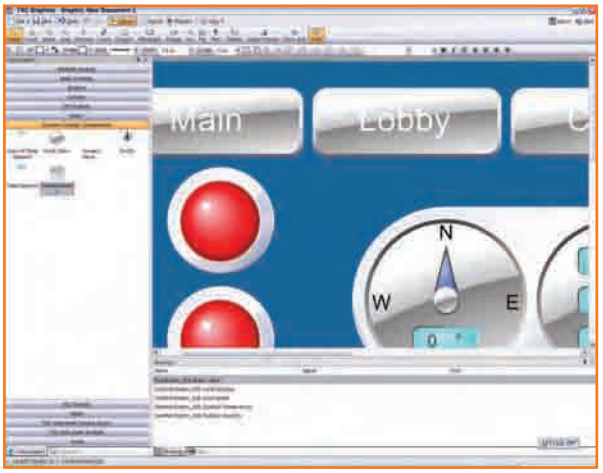
A high performance stand-alone software module for creating and editing dynamic system images.
A broad range of drawing tools, symbols and functions allows customized and efficient color graphic creation.

- Extensive standard symbol library
- Symbol editor
- Run time simulation
- Unrestricted tool positioning
- Multiple graphics
- Import of .bmp .gif .jpg .pcx .tif graphics files
- Dynamic and animated graphics as well as creation of dynamic links

DESCRIPTION

0-008-8221-0 New License
0-008-8321-0 Upgrade
0-008-8421-0 1 Year Maintenance Agreement

TAC Vista 5 Graphics Editor TGML



TGML is the enhanced Vista graphics system. The editor for TGML graphics provides the user with the most powerful and easy-to-use operator interface in the industry. The richness and flexibility of what can be achieved is unrivalled.

In addition to the ability to draw basic shapes like lines, polylines, curves, polygons, ellipses, arcs etc, the list of functions includes:

- Components and symbols. Use the symbols supplied with TGML, e.g. DIN and ISO, or create your own library with your preferred look and feel.
- Windows standard user interface 'drag and drop' can be used in the editor.
- Change object appearance with fill color, stroke color, width, height, font, font size etc, and add effects like color gradients or semi-transparency
- Bind to any signal in a Vista system, to any property of a graphical object, or bind several Vista signals to several properties for dynamic behavior.
- Embed pictures and photos.
- Automatically convert OGC graphics.
- Animations and conversions.
- Javascript for more advanced user interaction.

DESCRIPTION

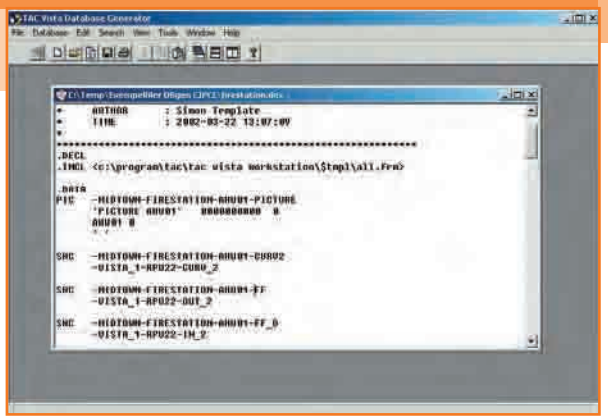
0-008-8222-0 New License
0-008-8322-0 Upgrade
0-008-8422-0 1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

TAC Vista 5 Database Generator

Software module for the efficient processing of project specific system data.

- Copying, editing and reusing existing system data from other projects
- Data import, export and conversion
- Conversion and adaptation of system information in the TAC Vista 5 database



DESCRIPTION

0-008-8227-0 New License
0-008-8327-0 Upgrade
0-008-8427-0 1 Year Maintenance Agreement

TAC Vista 5 Communication System 7

Software module for communication with the TAC ZONE II and SYSTEM 7 systems. It supports PLB, KE11 and LCU-C communication interfaces and a dedicated/dial-up line connection is used for remote monitoring and/or remote control. Geographically remote systems can be connected via a modem. Automatic bi-directional dial-up (Auto Dial) is used for requests, changing values and for transferring alarms.

DESCRIPTION

0-008-8252-0 New License
0-008-8352-0 Upgrade
0-008-8452-0 1 Year Maintenance Agreement

TAC Vista 5 OPC Client

Software module for communicating with a wide range of third party drivers via an OPC server. Hundreds of examples of OPC servers are available for integrating devices and systems from other manufacturers. Drivers are available for the following communication protocols.

- ABB Master – Alfa Laval Automation – Andover – BACnet – BAS2800 – CAN – Carrier CCN – CSI
- Danfoss Danduc – EIB – Exomatic – Fabec/Tateco AB – FIX – Interbus-S – JCI – Landis & Gyr
- Modicon MODBUS – Panasonic – Profibus – Saia S-Bus – Toshiba – Telefrang N45 – TREND IQ70
- Siemens S7, H1, L2 – Siematic – York YT – Zerberus

Additional information and supply sources are available on request.

DESCRIPTION

0-008-8251-0 New License
0-008-8351-0 Upgrade
0-008-8451-0 1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

TAC Vista OPC Server

A software module for open access, via an OPC standard interface, to the TAC Vista 5 server. Provides LonWorks® network object data (nodes, network variables) as OPC objects in a continuously updated database and carries out all the packaging, converting and updating required for these objects.

- Client/server architecture
- Easy and convenient access to TAC Vista via OPC
- Automatic updating
- Suitable for large data quantities

DESCRIPTION	
0-008-7949-0	New License

TAC Vista 5 CIPCL Editor

High-level language for efficient programming of special functions in the TAC Vista 5 Server.

- Programming language for logical and special functions in the server
- Source file preparation
- Program code conversion

DESCRIPTION	
0-008-8226-0	New License
0-008-8326-0	Upgrade
0-008-8426-0	1 Year Maintenance Agreement

TAC Vista 5 IPCL Editor

High-level language for programming logical functions in TAC ZONE II and TAC SYSTEM 7 systems.

- Programming language for logical and special functions in the controller family TA 65XX and 67XX
- Source file preparation
- Download of software to the controllers

DESCRIPTION	
0-008-8225-0	New License
0-008-8325-0	Upgrade
0-008-8425-0	1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

TAC Vista 5 OPC Tool

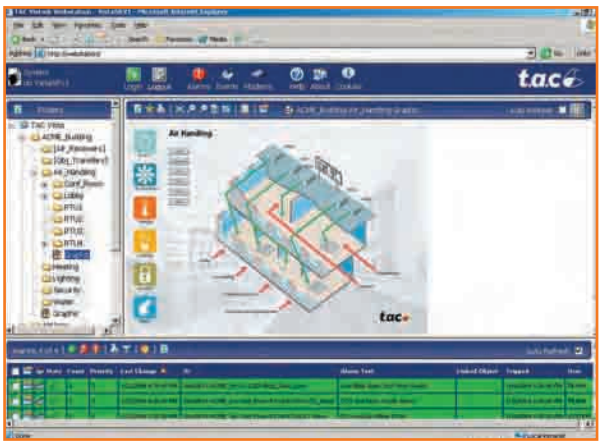
Software module for the integration of OPC servers into the TAC Vista 5 database (clients). It is easy to operate and based on the Microsoft Windows standard. This minimizes the work required to configure the OPC client in the TAC Vista 5 server database. Structures and objects are imported into this from external OPC servers.

DESCRIPTION	
0-008-8224-0	New License
0-008-8324-0	Upgrade
0-008-8424-0	1 Year Maintenance Agreement

TAC Vista 5 Webstation

The software module TAC Vista 5 Webstation gives access to TAC Vista 5 systems using a standard web browser via the Intranet /Internet. The following operating functions are supported:

- Display and acknowledge alarms
- Read and write values
- View graphics
- Trend logging
- Historical events
- Reports and charts



DESCRIPTION	
0-008-8270-0	New License – 1 User
0-008-8370-0	Upgrade – 1 User
0-008-8470-0	1 Year Maintenance Agreement – 1 User
0-008-8271-0	New License – 3 Users
0-008-8371-0	Upgrade – 3 Users
0-008-8471-0	1 Year Maintenance Agreement – 3 Users
0-008-8272-0	New License – 6 Users
0-008-8372-0	Upgrade – 6 Users
0-008-8472-0	1 Year Maintenance Agreement – 6 Users
0-008-8273-0	New License – 12 Users
0-008-8373-0	Upgrade – 12 Users
0-008-8473-0	1 Year Maintenance Agreement – 12 Users
0-008-8274-0	New License – Unlimited Users
0-008-8374-0	Upgrade – Unlimited Users
0-008-8474-0	1 Year Maintenance Agreement – Unlimited Users

Maintenance Agreements - see page 10 for further details.

TAC Vista ScreenMate (Virtual Room Unit)

Room control via the Intranet on a PC workstation.

- Virtual room control device as monitor image
- Individualized control configuration
- Variable setting of room functions such as:
  - Dimming lights
  - Switching lights
  - Adjusting blinds
  - Change setpoints
  - Display of actual values

DESCRIPTION

0-008-8280-0 New License – 10 Users
0-008-8380-0 Upgrade – 10 Users
0-008-8480-0 1 Year Maintenance Agreement – 10 Users

0-008-8281-0 New License – 20 Users
0-008-8381-0 Upgrade – 20 Users
0-008-8481-0 1 Year Maintenance Agreement – 20 Users

0-008-8282-0 New License – 100 Users
0-008-8382-0 Upgrade – 100 Users
0-008-8482-0 1 Year Maintenance Agreement – 100 Users

TAC Vista Host Tool

We have integrated TAC I/NET with TAC Vista. The result is a uniquely well structured and feature rich solution, enabling users to operate TAC Vista/TAC Xenta and I/NET systems using one user interface.

If the advanced functions enabled by the I/NET Host Tool are required by end customers, TAC I/NET Security or TAC I/NET Integrated licenses are required. TAC I/NET Security limits the Host Tool to presenting access control and security options only.

DESCRIPTION – VISTA 5 I/NET INTEGRATED

0-008-8228-0 New License
0-008-8328-0 Upgrade
0-008-8428-0 1 Year Maintenance Agreement

DESCRIPTION – VISTA 5 I/NET SECURITY

0-008-8229-0 New License
0-008-8329-0 Upgrade
0-008-8429-0 1 Year Maintenance Agreement

LNS® Server

The Echelon® LNS Server is used to expand the TAC Vista 5 Server so that it can communicate with LonWorks® devices directly via LNS. The LNS Server is required for systems where LonMaker® is not installed.

DESCRIPTION

0-008-8253-0 Vista 5 LNS Server
0-008-8353-0 Vista 5 LNS Server Upg
0-008-8453-0 1 year Vista LNS Server

Maintenance Agreements - see page 10 for further details.

TAC Vista FM

Vista FM

TAC Vista FM is a suite of software solutions, built around an integrated database, that gives you a window into the cost and performance of your buildings. It collects and reports – in clear, readable presentations and charts – the information needed to manage operational, system and technical data throughout the building lifecycle.

Fully integrated with the TAC Vista building automation system, Vista FM draws on real time information so you accurately see the big picture, or drill down for details to:

- Track budgets across organizations and buildings
- Respond to and manage service calls
- View and manage energy consumption
- Handle work orders for suppliers and contractors
- Analyze trends and set targets
- Develop strategic plans for optimum building performance and cost

VISTA FM MAINTENANCE

- Maintenance schedules
- Maintenance history
- Maintenance instructions
- Resource management
- Weekly work orders
- Reactive maintenance
- Progress monitoring

VISTA FM HELPDESK

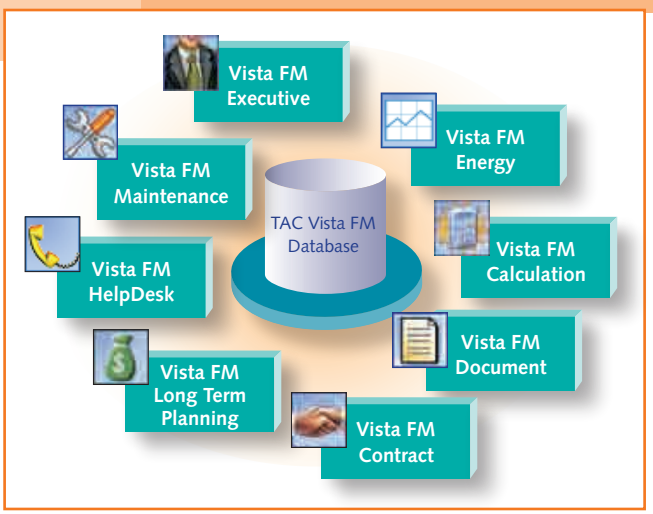
- Requests
- Work orders
- Contacts
- Resource management
- Monitoring
- Fault history
- Feedback

VISTA FM LONG TERM PLANNING (LTP)

- Action planning and scheduling
- Cost estimates
- Repair history
- Survey reports

VISTA FM CONTRACT

- Flexible structure of contracts
- Check dates and other detail controls
- Search and reporting
- Contract parties and contract costs



VISTA FM EXECUTIVE

- Long-term planning
- Strategic decision making
- High-level view of maintenance, energy, etc.
- Links to Vista FM database

VISTA FM ENERGY

- Environmental impact of energy use
- Reading interval adjustment
- Degree-days
- Main and sub meters
- Meter changes
- Versatile reporting
- Meter reading schedules
- Freely definable monitoring objects
- Direct link to building automation system

VISTA FM CALCULATION

- Air handling unit energy consumption
- Can download real time data from the Vista building automation system
- Temperature set points, time schedules, etc.
- Effect of tariffs

VISTA FM DOCUMENT

- CAD drawings
- Word and Excel files
- Digital photographs
- Links to Vista FM database
- File borrowing information
- Search capabilities
- Archiving

Vista FM (continued)

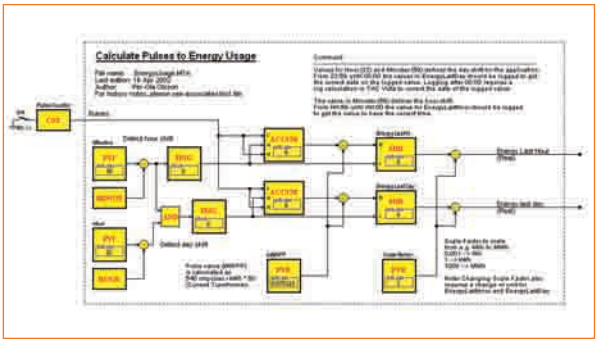
NEW LICENSE	
0-008-8080-0	TAC Vista FM Base
0-008-8081-0	TAC Vista FM Maintenance
0-008-8082-0	TAC Vista FM HelpDesk
0-008-8083-0	TAC Vista FM Document
0-008-8084-0	TAC Vista FM Calculation
0-008-8085-0	TAC Vista FM Energy
0-008-8086-0	TAC Vista FM LTP
0-008-8087-0	TAC Vista FM Contract
0-008-8088-0	TAC Vista FM Signature
0-008-8089-0	TAC Vista FM Executive
0-008-8100-0	TAC Vista FM Web Base
0-008-8101-0	TAC Vista FM Web Maintenance
0-008-8102-0	TAC Vista FM Web HelpDesk
0-008-8103-0	TAC Vista FM Web HelpDesk Req
0-008-8104-0	TAC Vista FM Web Document
0-008-8105-0	TAC Vista FM Web Energy
0-008-8106-0	TAC Vista FM Web LTP
0-008-8107-0	TAC Vista FM Web MaintBook
0-008-8108-0	TAC Vista FM Web Executive

MAINTENANCE AGREEMENT	
0-008-8120-0	1 year TAC Vista FM Base
0-008-8121-0	1 year TAC Vista FM Maintenance
0-008-8122-0	1 year TAC Vista FM HelpDesk
0-008-8123-0	1 year TAC Vista FM Document
0-008-8124-0	1 year TAC Vista FM Calculation
0-008-8125-0	1 year TAC Vista FM Energy
0-008-8126-0	1 year TAC Vista FM LTP
0-008-8127-0	1 year TAC Vista FM Contract
0-008-8128-0	1 year TAC Vista FM Signature
0-008-8129-0	1 year TAC Vista FM Executive
0-008-8140-0	1 year TAC Vista FM Web Base
0-008-8141-0	1 year TAC Vista FM Web Maintenance
0-008-8142-0	1 year TAC Vista FM Web HelpDesk
0-008-8143-0	1 year TAC Vista FM Web HelpDesk Req
0-008-8144-0	1 year TAC Vista FM Web Document
0-008-8145-0	1 year TAC Vista FM Web Energy
0-008-8146-0	1 year TAC Vista FM Web LTP
0-008-8147-0	1 year TAC Vista FM Web MaintBook
0-008-8148-0	1 year TAC Vista FM Web Executive

TAC Menta®

Fully featured, graphical engineering tool for programming, commissioning and operating TAC Xenta® controllers.

- Easy graphical programming
- Wide range of functions and application libraries
- Trend logging, scheduling and alarm definitions
- Automatic creation of LonWorks® object files in XIF format
- Offline simulation
- Single step execution
- Online operating functions
- Dynamic online trend
- Documentation support
- Downloading of software to TAC Xenta controllers
- Fully integrated with the TAC Vista database
- Definition of the menu structure for the TAC Xenta OP, Operator Panel



DESCRIPTION	
0-008-8240-0	New License
0-008-8340-0	Upgrade
0-008-8440-0	1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

TAC ZBuilder

TAC ZBuilder is an easy to use and a cognitive tool to configure TAC Xenta 121 zone controllers. It is Windows® based and is fully integrated with TAC Vista and LonMaker® for Windows®. It can also be used as a stand alone tool.

Full integration with TAC Vista makes ZBuilder easy to learn and increases the engineering and installation efficiency.

GRAPHIC REPRESENTATION

All heating, cooling and fan stages are represented in graphics, showing how you have configured it, for easy understanding of the control function including all activation levels and hystereses.

CONTROL SEQUENCES

All heating and cooling sequences are easy to set by just choosing the number of stages or type of output from the drop down lists. The activation points are easily and intuitively adjusted.

The following stages are supported:

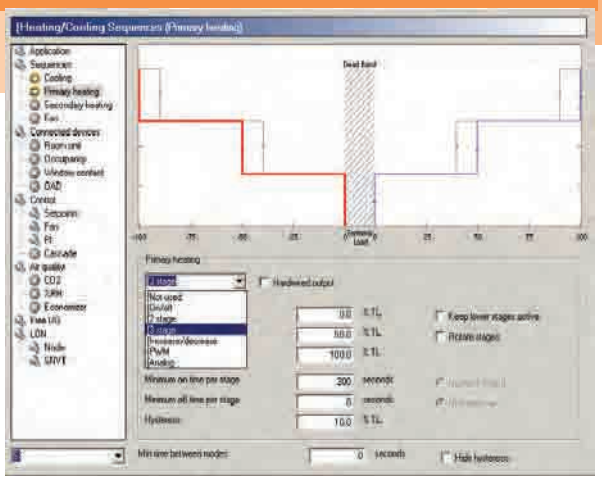
- On/off
- 1 stage
- 2 stages
- 3 stages
- Increase/decrease
- PWM
- Analog

FAN CONTROL

The fan can be programmed to support the following fan types including a number of additional fan control functions.

The following stages and functions are supported:

- On/off
- 2 stages
- 3 stages
- Analog
- Startup boost
- Conditioning
- Start and stop delays
- Fan feedback and interlock with temperature control devices



TAC ZBUILDER TEMPLATES

TAC ZBuilder comes with several templates covering most common fan coil and heat pump applications, including sequences and typical exception modes. Should a template covering your typical needs be missing, you can easily create it in TAC ZBuilder and re-use it over and over again.

DESCRIPTION

0-008-8242-0 New License
0-008-8442-0 1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

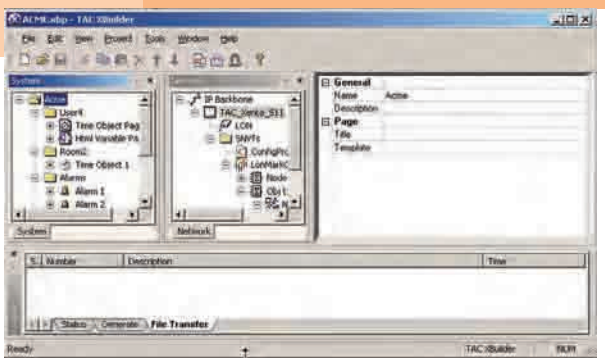
TAC Vista 5

TAC XBuilder

TAC XBuilder is the programming tool for TAC Xenta 511, (version 2.0 and later). XBuilder addresses the programming task from the end user point of view, instead of from the device point of view. XBuilder is a project oriented tool, which means all data in an application will be stored in a project container.

The user interface is intuitive and customizable with four main windows.

- System – describes the logical system with objects and connections
- Network – describes the physical implementation of the system with objects
- Properties – describes the properties of the selected object in the System or Network window
- Output – informs the user about errors and warnings in the project



DESCRIPTION

0-008-8241-0 New License
0-008-8341-0 Upgrade
0-008-8441-0 1 Year Maintenance Agreement

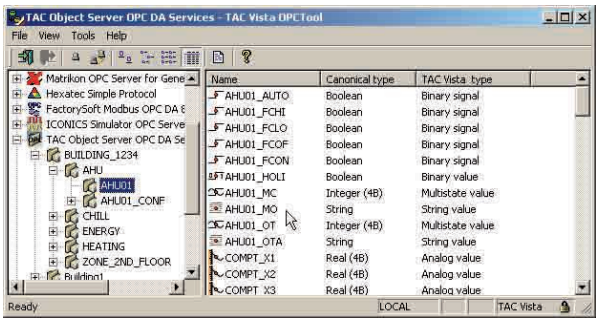
TAC Vista OPC Tool

The TAC Vista OPC Tool is a tool used for browsing OPC servers and automatically programming the TAC Vista database. Specifically, this tool is used for TAC OPC server for Danduc, I/Net OPC server or any other OPC server supporting OPC Data Access, alarm & events or historical data.

Programming the TAC Vista database involves choosing the signals and trend logs you need to generate and operate. After generation of the objects, TAC Vista will be able to communicate with any equipment that is handled by an OPC server.

TAC Vista OPC Tool can be used to perform these tasks:

- Locate OPC servers locally or on any node of a network
- Browse the hierarchy of items in the OPC server
- Create and update objects for the TAC Vista database
- Substitute unsupported characters in OPC servers
- Log result to a log file

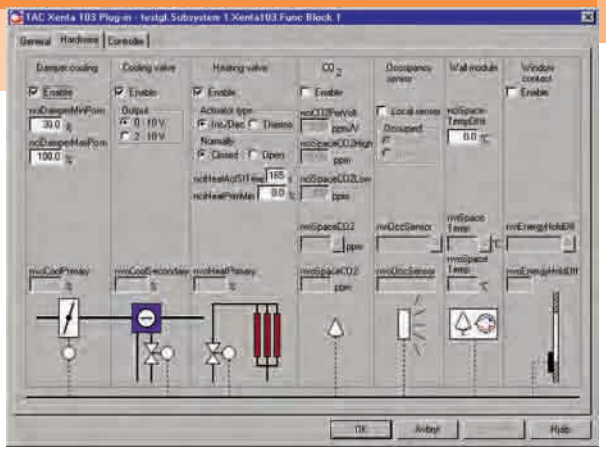


DESCRIPTION

0-008-8224-0 New License
0-008-8324-0 Upgrade
0-008-8424-0 1 Year Maintenance Agreement

Maintenance Agreements - see page 10 for further details.

LonMaker® Network Management Tool



High performance network management tool for creating, installing and maintaining multi-vendor, open and interoperable LonWorks® networks. The LonMaker® Management Tool is based on Echelon's LNS® network operating system, and combines high performance client-server architecture with the user-friendly Microsoft® Visio® user interface.

- Simple graphics programming
- Based on LNS operating system and Microsoft Visio
- Supports remote access via LonWorks® or IP networks
- Connection of independent networks to one network
- Simple installation of LonMark® applications
- Supports Plug-ins for TAC Xenta 100 series zone controllers
- Supports simultaneous access by several users

DESCRIPTION

9-008-0003-0 Credits for LonMaker® Network Management Tool (100 units)
9-008-0013-0 LonMaker® 3.2 Standard Edition
9-008-0014-0 LonMaker® 3.2 Professional Edition
9-008-0015-0 LonMaker® 3.2 Standard Edition Upgrade
9-008-0016-0 LonMaker® 3.2 Pro Edition Upgrade

Maintenance Agreements - see page 10 for further details.

Hardware

TAC Xenta
Ethernet Devices

The convergence of Internet and LonWorks® technology creates new opportunities in building automation, and TAC is in the forefront of this development with the concept of Open Systems for Building IT.

TAC provides a number of Ethernet devices to let you save a large portion of the infrastructure cost for systems installation by sharing already installed network cables.

The table below provides an overview of the TAC Xenta range of Ethernet devices and their functionality.

Product	Function										
	Web	LTA[1]	Xenta Server	I/NET Points	I/NET NPR	Modbus	Protocols	Gateway	MicroNet	I/O Modules	Support for Xenta 280/300/401
TAC Xenta 511	▼	▼	▼					▼			▼
TAC Xenta 511-B	▼	▼	▼			▼		▼			▼
TAC Xenta 527	▼		▼	▼	▼			▼			
TAC Xenta 527-NPR				▼	▼						
TAC Xenta 701	Service[3]	▼	▼							10	
TAC Xenta 711	Custom[4]	▼	▼							10	▼
TAC Xenta 721	Service[3]	▼	▼							20	▼
TAC Xenta 731	Custom[4]	▼	▼	▼	▼	▼			▼	20	▼
TAC Xenta 913		▼	▼	▼		▼	▼	▼			
TAC Xenta 911[2]		▼									

1 - LonTalk Adapter
2 - Xenta 911 also supports IP Modem and Remote Serial Port
3 - Web pages automatically generated for commissioning and service purposes only. No end-user web content available.
4 - Totally configurable end-user web pages available

TAC Xenta® 511/511-B Web Server

The TAC Xenta 511 is a web-based presentation system for LonWorks® and MODBUS networks. Using a standard web browser, the operator can easily view and control the devices in the LonWorks® network via the Internet or a local intranet. One TAC Xenta 511 can present a small to medium LonWorks® network or be one of several local presentation devices in a larger network.

The TAC Xenta 511 can also be used as an LTA (LonTalk® adapter) between TAC Vista and the LonWorks® network.

FUNCTIONAL FEATURES

- Multiple access levels
- Security functions for TCP/IP firewalls
- Complete alarm handling
- Alarm routines for sending e-mails that can be converted to SMS and reports
- Dynamic color graphics (automatic updating)
- Display of values in diagrams
- Data logging and data logging viewer
- Ability to change values/conditions (e.g. setpoints)
- Ready-made menus, help functions and links to web pages
- Storage of customer-specific documentation and web pages

Supports SNVT (Standard Network Variable Types) in accordance with LonMark® and TAC network variables. Changes are immediately visible to all users. TAC XBuilder is used to create web pages, and for the installation and initial operation of the TAC Xenta 511.

SPECIFICATIONS

Supply voltage	24 V AC ±20%, 19 - 40 V DC
Power consumption	max. 5 W
Transformer sizing	5 VA
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Real Time Clock	
Accuracy at +25 °C (77°F)	±12 minutes per year
Data backup in event of power failure	72 h
Dimensions incl. base	90 x 110 x 77mm (3.5"x4.3"x3.0")
Enclosure rating	IP 20
Communication	
Modem	2400 - 57600 bps, RS232A, RJ45, 8-p
PC configuration	RS232B, RJ10, 4-p
LonWorks®	FTT-10, screw terminal
MODBUS	RS 485 (TAC Xenta 511-B)
Ethernet	TCP/IP, 10Base-T, RJ45
Memory	
Internal memory	16 MB
External memory	expandable with MMC (4 – 128 MB, MMC card)

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0811-0 TAC Xenta 511
0-073-0812-0 TAC Xenta 511-B

ACCESSORIES

0-073-0902-0 Terminal part for all Xenta 4/5/9xx
0-073-0920-0 TAC Xenta: Programming Serial Kit for all Xenta 4/5/9xx

Ethernet Devices

TAC Xenta 527

The TAC Xenta 527 is a comprehensive presentation system, which enables secure web access to both TAC I/NET Seven and TAC Vista™ networks simultaneously. It provides you with the freedom to monitor your system from any location with Internet access. With automatic network discovery of TAC I/NET systems, the only configuration needed is to point the Xenta 527 to TAC I/NET's NetPlus™ Routers or TAC I/NET Hosts. After that, your entire TAC I/NET network is immediately available through the web interface.

You can access any point in your system, either through the convenient browse functionality, or via a graphic page link. Comprehensive control features include changing values such as set points, optimization parameters, and PID parameters. Manual control features such as test, hold, and manual are all supported as well as acknowledge, and momentary release for doors.

FUNCTIONAL FEATURES

- Real time graphics and dynamic data
- Simultaneous presentation of TAC I/NET and TAC Vista systems
- Trend logging and analysis
- Time scheduling
- Time synchronization
- Alarm management
- Alarm notification via email
- Device mode management
- Event viewing and filtering
- Point control
- Operator security
- Personal home page
- Wireless Sensor Support
- Embedded Net Plus router
- Peer to Peer linking of TAC I/NET to LON® signals
- Configurable Encryption for TAC I/NET I/P communications
- Supports DNS and DHCP configurations
- Comprehensive SNMP integration
- On-board Controller LAN connection

SPECIFICATIONS

Dimensions. . . . . .90 x 110 x 77mm (3.5″ x 4.3″ x 3.0″)
Supply voltage . . . . . .24 V AC ±20%, 50/60 Hz or 19–40 V DC
Power consumption . . . . . .max. 5 W
Transformer sizing . . . . . .5 VA

Ambient Temperature
Storage. . . . . –20 °C to +50 °C (–4 °F to +122 °F)
Operation . . . . . .0 °C to +50 °C (+32 °F to +122 °F)
Humidity . . . . . .max. 90% RH non-condensing

Mechanical
Dimensions. . . . . .90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Weight . . . . . .0.2 kg (0.44 lb.)
Enclosure rating . . . . . .IP 20

Real Time Clock
Accuracy at +25 °C (77°F) . . . .±12 minutes per year
Power failure protection . . . . . .72 h

Communication
A: RS232 . . . . . .2400 – 57600 bps, RJ45, 8-p
A: RS485 . . . . . .2400 – 57600 bps, async. terminal block
B: RS232 . . . . . .RJ10, 4-p
C: RS485 . . . . . .sync. (SDLC) terminal block
LonWorks® . . . . . .TP/FT-10, terminal block
Ethernet . . . . . .TCP/IP, 10Base-T, RJ45

Memory
Internal memory. . . . . .16 MB
External memory . . . . . .expandable with MMC
(4 – 128 MB, MMC card)

DESCRIPTION

0-073-0820-0 TAC Xenta 527

ACCESSORIES

0-073-0902-0 Terminal part TAC Xenta 400
0-073-0920-0 TAC Xenta: Programming Serial Kit

TAC Xenta 913
LonWorks® Gateway

The TAC Xenta 913 is a cost-effective way to integrate a large variety of products into a TAC network. The TAC Xenta 913 supports the most commonly used open protocols, such as MODBUS, BACnet and LonWorks®. It also supports some manufacturer-specific protocols, e.g. I/NET and Clipsal C-bus.
The TAC Xenta 913 acts as a gateway, and transfers data point values from one network to another. Configuration is carried out using the TAC XBuilder programming tool.

FUNCTIONAL FEATURES

- Freedom to migrate to open systems
- Bridges the gap between two protocols and communication technologies
- Handles most common protocols
- Easy to operate
- Reliable and cost effective
- Links chiller plants
- Integrates power meters

Protocol	Description/ Model	Driver Description
BACnet	BACnet IP / MS-TP / PTP	BACnet is a standard protocol for building automation developed by ASHRAE. Supports BACnet ReadProperty and WriteProperty messages. Max. no. of devices: IP: 10, MS-TP: 30, PTP: 10
MODBUS/ J-Bus	MODBUS Master / Slave / TCP	Commonly used protocol by many PLCs and other equipment manufacturers. • Uses Poll-on-demand to extract data • RTU or ASCII Formats • Supports 01, 02, 03, 04, 05, 06 and 10 MODBUS functions Max. no. of devices: As Master: 31 Slaves, As Slave: 1 Master, TCP: 100
M-Bus	Metering Bus	M-Bus is a standard protocol for meters. Requires a hardware converter between RS-232 and M-Bus e.g. Level-Converter PW20 from Relay GmbH. Max. no. of devices: 200
C-Bus	Clipsal bus	C-Bus is a proprietary communication protocol of Clipsal Lighting Control Systems. Max. no. of devices: 50
LonWorks®	FT-10	LonWorks® is a standard communication, extensively used in building automation. Up to 400 SNVTs or TAC Xenta network variables.
I/NET	Host LAN / Controller LAN	I/NET is a proprietary protocol for I/NET systems from TAC.

TAC Xenta 913
LonWorks® Gateway (continued)

SPECIFICATIONS

Operating voltage . . . . . .24 V AC ±20%, 50/60 Hz or 19–40 V DC
Power consumption . . . . . .max 5 W
Transformer sizing . . . . . .5 VA
Dimensions. . . . . .90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Enclosure rating . . . . . .IP 20

Real Time Clock
Accuracy at +25°C (77° F) . . . . .±12 minutes per year
Power failure protection. . . . . .72 h

Ambient Temperature
Storage. . . . . .–20°C to +50°C (–4°F to +122°F)
Operation . . . . . .0°C to +50°C (+32°F to +122°F)
Humidity . . . . . .max. 90% RH non-condensing

Communication
A: RS232 . . . . . .2400 – 57600 bps, RJ45, 8-p
A: RS485 . . . . . .2400 – 57600 bps, async. terminal block
B: RS232 . . . . . .RJ10, 4-p
C: RS485 . . . . . .sync. (SDLC) terminal block
LonWorks®. . . . . .TP/FT-10, terminal block
Ethernet . . . . . .TCP/IP, 10Base-T, RJ45

DESCRIPTION

0-073-0835-1 TAC Xenta 913

ACCESSORIES

0-073-0902-0 Terminal part TAC Xenta 400
0-073-0920-0 TAC Xenta: Programming Serial Kit

TAC Xenta 911

The TAC Xenta 911 communication device can be configured in three different ways:

- As a LonTalk® adapter between TAC Vista and a LonWorks® network
- As an IP modem, working as a direct replacement for a telephone modem, with dial-up functionality over the computer network
- As a remote serial port, meaning the serial port of Xenta 911 can be used as if it was a serial port on the PC. To be used for the serial protocols of Vista.

In the latter case, TAC Xenta 911 is intended for use with most TAC units supporting dial-up. See the data sheet for TAC Xenta 911. The IP address of the "dialed-up" unit will then replace the telephone number. This makes it very easy to save money by eliminating telephone line costs. The fast dial-up time, typically less than two seconds, provides the feeling of a directly connected network.

The TAC Xenta 911 is quick to install and is easily maintained, using a web browser on the TCP/IP network. Its default values are set for TAC Xenta connection, and it is pre-configured for most TAC products.

The TAC Xenta 911 contains HTML pages providing comprehensive on-line help.

FUNCTIONAL FEATURES

- Works as a LonTalk® adapter over IP between TAC Vista and a LonWorks® network
- Supports TAC Xenta controllers and most TAC legacy products
- Configurable over an IP network with a standard web browser
- Pre-configured for most TAC products
- Real time clock
- All configuration data, e.g. like telephone numbers, are stored in a non-volatile memory

Supports SNVT (Standard Network Variable Types) in accordance with LonMark® and TAC network variables.

SPECIFICATIONS

Supply voltage	24 V AC ±20%, 50 / 60 Hz or 19-40 V DC
Power consumption	max. 5 W
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Real Time Clock	
Accuracy at 25 °C (77°F)	±12 minutes per year
Data backup in event of power failure	72 h
Mechanical	
Dimensions incl. base	90 x 110 x 77mm (3.5" x 4.3" x 3")
Enclosure rating	IP 20
Communication	
Modem	2400 - 57600 bps, RS232A, RJ45, 8-p (port A)
PC configuration	RS232A, RJ45, 4-p (port B)
Network	LonWorks®, FTT-10, screw terminal
Ethernet	TCP/IP, 10base-T, RJ45

DESCRIPTION

0-073-0831-0 TAC Xenta 911

ACCESSORIES

0-073-0902-0 Terminal part TAC Xenta 400
0-073-0920-0 TAC Xenta: Programming Serial Kit

TAC Xenta 700 Controller

The TAC Xenta 700 series is a multifunctional presentation and control system with an embedded web server that allows you to access your control application and control networks via a web browser - anywhere in the world, at any time. TAC Xenta 700 series controllers are the first to combine building automation, web functionality, alarm handling and amazing graphics, all in a powerful, compact package. This all-in-one solution has everything you need to monitor and control your settings in a single economical device. Furthermore, Xenta 700 controllers are Xenta servers designed to be connected via TCP/IP to TAC Vista in larger installations, aggregating data for easy operation and benchmarking.

All functions for daily operations such as Alarm Handling, Trend Logging and Viewing, Event Handling, Time Schedules, Advanced Dynamic Graphics, are included. The TAC Xenta 700 series comprises four controllers, as per the table below.

Supports	Modbus	MicroNet	I/NET	Web	I/O Modules	Xenta 280/300/401
Xenta 701				Service	10	
XENTA 711				Custom	10	▼
Xenta 721				Service	20	▼
Xenta 731	▼	▼	▼	Custom	20	▼

Service - web pages generated automatically for commissioning and service purposes only. No end-user web content available.

Custom - totally configurable end-user web pages available.

FUNCTIONAL FEATURES

- TAC Xenta 700 controller family with built-in web functionality
- Configurable or automatically generated Web interface
- Complete web-based Building Management System
- Highly scalable systems based on TAC Xenta 700 in combination with TAC Vista
- IP connectivity enabling worldwide access via the Internet
- Versatile and easily learnt TAC Menta programming tool
- Several TAC Menta applications can run simultaneously
- Multiple instances of one TAC Menta application for easy engineering
- High performance control applications
- Efficient engineering based on the TAC XBuilder tool
- Security functions for TCP/IP firewalls
- Complete alarm handling capability
- Dynamic color graphics (updated automatically)
- Flexible value displays - in diagrammatic or tabular form
- Data logging and data logging viewer

SPECIFICATIONS

Operating voltage . . . . . 24 V AC ±20%, 50/60 Hz or 19–40 V DC
Power consumption . . . . . max 5 W
Transformer sizing . . . . . 5 VA
Dimensions. . . . . 90 x 110 x 77mm (3.5" x 4.3" x 3")
Enclosure rating . . . . . IP 20

Real Time Clock
Accuracy at +25°C (77° F) . . . . . ±12 minutes per year
Power failure protection. . . . . 72 h

Ambient Temperature
Storage. . . . . –20°C to +50°C (–4°F to +122°F)
Operation . . . . . 0°C to +50°C (+32°F to +122°F)
Humidity . . . . . max. 90% RH non-condensing

Communication
A: RS232 . . . . . 2400 – 57600 bps, RJ45, 8-p
A: RS485 . . . . . 2400 – 57600 bps, async. terminal block
B: RS232 . . . . . RJ10, 4-p
C: RS485 (Xenta 731) . . . . . sync. (SDLC) terminal block
LonWorks®. . . . . TP/FT-10, terminal block
Ethernet . . . . . TCP/IP, 10Base-T, RJ45

DESCRIPTION

0-073-0150-0	El.Part TAC Xenta 701	TCP/IP based controller
0-073-0155-0	El.Part TAC Xenta 711	TCP/IP based controller, end-user web
0-073-0160-0	El.Part TAC Xenta 721	TCP/IP based controller
0-073-0165-0	El.Part TAC Xenta 731	TCP/IP based controller, end-user web

ACCESSORIES

0-073-0902 Terminal part TAC Xenta 400.
0-073-0920 TAC Xenta: Programming Serial Kit

Programmable Controllers

TAC Xenta
Programmable Controllers

TAC Xenta is a range of LonMark®-certified programmable controllers intended for control of small, medium and large heating, ventilation and air-conditioning systems. TAC Xenta series controllers are designed for use in open systems and for integration via LonWorks® – an industrial standard for network communications which enables a range of different systems within a property, such as HVAC, lighting and access control, to be integrated on the same network. TAC Xenta series provides an open, future-proof system architecture. At the same time, it provides access to standardized network technology supporting a flexible control system, to which components from other manufacturers can be connected.

DESIGNED FOR EFFECTIVE CONTROL OF HEATING AND VENTILATION

The TAC Xenta programmable controllers have full HVAC functionality, including control loops, control curves, time control, alarm handling, etc.

SIMPLICITY OF INSTALLATION

The controllers are freely programmable and can be fitted in a standard enclosure or a control panel. Installation is extremely simple. The controller is designed for installation adjacent to the equipment that it controls, which greatly simplifies wiring. The unique TAC Menta graphic programming tool quickly adapts the controller for different types of control and/or supervisory applications. Engineering is further simplified by the fact that TAC Menta contains a large number of pre-programmed function blocks, together with a comprehensive library of functions.

DEVELOPED FOR NETWORK COMMUNICATION

The TAC Xenta can be used either independently or as a communicating controller in a larger system. Several controllers can be easily connected to form a network and exchange data. In addition, the TAC Xenta series controller can be connected to TAC Vista – a Building Management System running under Windows® for controlling and analyzing all aspects of performance, either in individual buildings or a whole area.

TAC Xenta Programmable Controllers Overview

	Controllers						I/O modules				
Device	Xenta 281	Xenta 282	Xenta 283	Xenta 301	Xenta 302	Xenta 401	Xenta 411/412	Xenta 421A/422A	Xenta 451A/452A	Xenta 471	Xenta 491/492
Usage	Small installations			Medium size installations		Large instal-lations	I/O extension				
I/O points	12	16	12	20	20		10	9	10	8	8
Digital Inputs, DI	2	2	2	4	4		10	4			
Thermistor Inputs, TI		2	4	4	4						
Universal Inputs, UI	4	4		4	4				8		
Analog Inputs, AI										8	
Digital Outputs Relay, DO	3	4		6	4			5			
Digital Outputs Triac, DO			6								
Analog Outputs, AO	3	4		2	4				2		8
Number of I/O modules				2	2	10					
LonWorks® variables											
Number of input SVNTs	15	15	15	15	15	125		Yes (1)	Yes (1)		
Number of output SVNTs	30	30	30	30	30	125		Yes (1)	Yes (1)		

1. The I/O points and configuration of these modules can be accessed via SNVTs.

TAC Xenta 280

A compact, freely programmable controller which is LonMark® certified and has fixed inputs and outputs. The controller is available in three different versions:

- TAC Xenta 281 (12 physical inputs/outputs)
- TAC Xenta 282 (16 physical inputs/outputs)
- TAC Xenta 283 (12 physical inputs/outputs)

The controllers can be easily programmed using the graphical programming tool TAC Menta. The controllers can be used in a stand-alone system, where the TAC Xenta OP can be used for displaying and operating the controller. Controllers can alternatively be used in larger LonWorks® networks.

FUNCTIONAL FEATURES

- Optimized for maximum flexibility in HVAC control with on board inputs and outputs
- Fully programmable using the intuitive TAC Menta programming tool
- Intelligent start time calculation minimizing energy usage
- Designed for use in open systems and integration via LonWorks
- Available in a range of models to secure cost-efficiency for each application
- Designed to work with TAC Vista

SPECIFICATIONS

Operating voltage . . . . . 24 V AC/DC ±20%, 50/60 Hz
Power consumption . . . . . max. 5 W
Data backup in event of power failure . . 72 h RAM-Backup

Ambient Temperature
Storage. . . . . –20 °C to +50 °C
(–4 °F to +122 °F)
Operation . . . . . 0 °C to +50 °C
(+32 °F to +122 °F)
Humidity . . . . . max. 90% RH non-condensing

Dimensions incl. base . . . . . 180 x 110 x 77mm
(7″ x 4.3″ x 3″)
Protocol . . . . . FTT-10, LonTalk®
Transmission rate . . . . . 78 kbits/s

External LonWorks® data points
Input variable . . . . . max. 15 SNVTs
Output variable . . . . . max. 30 SNVTs

Interfaces
Serial connection RS232, RJ45
Operator panel. . . . . Modular jack, LonTalk® Protocol

Unit	DI	DO	UI	TI	AO
TAC Xenta 281	2	3	4	–	3
TAC Xenta 282	2	4	4	2	4
TAC Xenta 283	2	6	–	4	–

DESCRIPTION

0-073-0030-0 TAC Xenta 281
0-073-0031-0 TAC Xenta 282
0-073-0032-0 TAC Xenta 283

ACCESSORIES

0-073-0901-0 Terminal part for all Xenta 280/300
0-073-0920-0 TAC Xenta: Programming Serial Kit

TAC Xenta 300 Stand Alone

A compact, freely programmable controller which is LonMark® certified and has 20 fixed inputs and outputs. The controller can be expanded to up to 40 inputs/outputs using two expansion modules. It does not include peer-to-peer or BMS (TAC Vista) communication. The controller can be upgraded at any time to a networkable version without changing the hardware. The TAC Xenta OP Operator Panel and a compatible terminal block are included in the stand-alone package.

FUNCTIONAL FEATURES

- Optimized for maximum flexibility in HVAC control with on board inputs and outputs
- Fully programmable using the intuitive TAC Menta programming tool
- Intelligent start time calculation minimizing energy usage
- Available in a range of models to secure cost-efficiency for each application
- I/O points can be extended by TAC Xenta 400 I/O modules

SPECIFICATIONS

Operating voltage . . . . . 24 V AC/DC ±20%, 50/60 Hz
Power consumption . . . . . max. 5 W
Data backup in event of power failure . . 72 h RAM-Backup

Ambient Temperature
Storage . . . . . –20 °C to +50 °C
(–4 °F to +122 °F)
Operation . . . . . 0 °C to +50 °C
(+32 °F to +122 °F)
Humidity . . . . . .
Dimensions incl. base. . . . . 180 x 110 x 77mm
(7″ x 4.3″ x 3″)
Protocol . . . . . FTT-10, LonTalk®
Transmission rate . . . . . 78 kbits/s

External LonWorks® data points
Input variable. . . . . max. 15 SNVTs
Output variable . . . . . max. 30 SNVTs

Interfaces
Serial connection . . . . . RS232, RJ45 for PC or modem
(up to 9600 bit/s)
Operator panel . . . . . Modular jack, LonTalk® Protocol

For further specifications, see technical data sheet.

Unit	UI	DI	TI	AO	DO
TAC Xenta 301	4	4	4	2	6
TAC Xenta 302	4	4	4	4	4

DESCRIPTION

0-073-0088-2 TAC Xenta 301/OP Stand Alone
0-073-0089-2 TAC Xenta 302/OP Stand Alone
0-008-7298-1 Upgrade TAC Xenta 300V3 to N/P

ACCESSORIES

0-073-0901-0 Terminal part TAC Xenta 280/300
0-073-0920-0 TAC Xenta: Programming Serial Kit

TAC Xenta 300 Base Unit

A compact, networkable, freely programmable controller which is LonMark® certified and has 20 fixed inputs and outputs. It can be expanded for up to 40 inputs/outputs using 2 expansion modules. Data can be directly accessed on site using a TAC Xenta OP Operator Panel.

FUNCTIONAL FEATURES

- Optimized for maximum flexibility in HVAC control with on board inputs and outputs
- Fully programmable using the intuitive TAC Menta programming tool
- Intelligent start time calculation minimizing energy usage
- Designed for use in open systems and integration via LonWorks
- Available in a range of models to secure cost-efficiency for each application
- I/O points can be extended by TAC Xenta 400 I/O modules
- Designed to work with TAC Vista

SPECIFICATIONS

Operating voltage	24 V AC/DC ±20%, 50/60 Hz
Power consumption	max. 5 W
Data backup in event of power failure	72 h RAM-Backup
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Dimensions incl. base	180 x 110 x 77mm (7″ x 4.3″ x 3″)
Protocol	FTT-10, LonTalk®
Transmission rate	78 kbits/s
External LonWorks® data points	
Input variable	max. 15 SNVTs
Output variable	max. 30 SNVTs
Interfaces	
Serial connection	RS232, RJ45 for PC or modem (up to 9600 bit/s)
Operator panel	Modular jack, LonTalk® Protocol

For further specifications, see technical data sheet.

Unit	DI	DO	UI	TI	AO
TAC Xenta 301	4	6	4	4	2
TAC Xenta 302	4	4	4	4	4

DESCRIPTION

0-073-0009-2 TAC Xenta 301/N/P network- and PC-communication
0-073-0011-2 TAC Xenta 302/N/P network- and PC-communication

ACCESSORIES

0-073-0901-0 Terminal part TAC Xenta 280/300
0-073-0907-2 Operator terminal TAC Xenta OP
0-073-0920-0 TAC Xenta: Programming Serial Kit

TAC Xenta 401 and 401:B Base Unit

High performance, freely programmable, high end controller without its own physical inputs and outputs. LonMark® certified. It can be expanded for up to 100 inputs/outputs with 10 expansion modules. It has a large memory so that the controller can be easily used for higher level functions (e.g. centralized schedule management).

FUNCTIONAL FEATURES

- Powerful platform supporting complex applications
- Fully programmable using the intuitive TAC Menta programming tool
- Expandable I/O provides cost-effective solution
- Smart and powerful data logging maximizing storage capacity
- Extensive memory supporting trending and scheduling
- LonMark®-certified enabling seamless integration with other building systems and functions

SPECIFICATIONS

Operating voltage	24 V AC/DC ±20%, 50/60 Hz
Power consumption	max. 5 W
Data backup in event of power failure	72 h RAM Backup
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Protocol	FTT-10, LonTalk®
Transmission rate	78 kbits/s
External LonWorks® data points	
TAC Xenta 401	
Input variables	max. 125 SNVTs
Output variables	max. 125 SNVTs
TAC Xenta 401:B	
Input variables	max. 210 SNVT
Output variables	max. 70 SNVT
Total number inputs and outputs	max. 250 SNVT
I/O modules	
TAC Xenta 401	Max. 10
TAC Xenta 401:B	0
Interfaces	
Serial connection	RS232, RJ45 for PC or modem (up to 9600 bit/s)
Operator panel	Modular jack, LonTalk® Protocol

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0101-2 TAC Xenta 401
0-073-0103-0 TAC Xenta 401:B

ACCESSORIES

0-073-0902-0 Terminal part TAC Xenta 400
0-073-0907-2 Operator terminal TAC Xenta OP
0-073-0920-0 TAC Xenta: Programming Serial Kit

TAC Xenta 411/412
Digital Input Module

For monitoring and counting digital, dry contact signals. The digital input module is only to be used in combination with the TAC Xenta 300/401 basic controllers. The module is available either with or without status LEDs. The terminal block is not part of the electronic unit and must be ordered separately.

FUNCTIONAL FEATURES

- Universal inputs provide installation flexibility
- Designed for TAC Vista systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

SPECIFICATIONS

Operating voltage	24 V AC ±20%, 50/60 Hz
Power consumption	max. 2 W
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Protocol	FTT-10, LonTalk®
Transmission rate	78 kbits/s
Digital inputs	
Quantity	10
Duration of counting pulse	min. 20 ms
Display	Status LEDs, red or green adjustable via DIP switch (TAC Xenta 412)

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0201-1 TAC Xenta 411 without LEDs
0-073-0203-1 TAC Xenta 412 with LEDs

ACCESSORIES

0-073-0902-0 TAC Xenta 400 terminal part

TAC Xenta 421A and 422A Universal Input and Digital Output Module

TAC Xenta 421A and 422A are Universal Input/Digital Output modules in the TAC Xenta family. They can be used as normal Xenta I/O modules or as certified LonMark® devices. Both modules have four universal inputs and five digital outputs. The universal inputs can be used as digital, thermistor, current, or voltage inputs. In addition, TAC Xenta 422A is equipped with LED status indicators, one for each digital input, and manual override switches for the digital outputs. The LED colors, red or green, can be selected individually by altering the parameter settings in TAC Menta® graphical tool or manually at start up.

FUNCTIONAL FEATURES

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LonWorks systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

SPECIFICATIONS

Operating voltage	24 V AC ±20%, 50/60 Hz or 21.6-40 V DC
Power consumption	max. 4 W
Ambient Temperature	
Storage	–20 °C to +70 °C (–4 °F to +158 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Protocol	FTT-10, LonTalk®
Transmission rate	78 kbits/s
Universal inputs	
Quantity	4
Duration of counting pulse	min. 20 ms
Indication	Status LEDs, red or green adjustable via TAC Menta or manually at start up (TAC Xenta 422A only)
As thermistor input:	NTC, 1800 ohm or 10 kohm at 25°C (77°F)
As voltage input	0 – 10 V DC
As current input	0 (4) - 20 mA
Digital outputs	
Quantity	5
Switching capacity	250V AC / 2A
Manual switch	ON, AUTO, OFF (TAC Xenta 422A)
Indication	Status LEDs green (TAC Xenta 422A)

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0245-0 **TAC Xenta 421A without LEDs, without manual override switches**

0-073-0246-0 **TAC Xenta 422A with LEDs, with manual override switches**

ACCESSORIES

0-073-0902-0 **TAC Xenta 400 terminal part**

TAC Xenta 451A and 452A Universal Input and Analog Output Module

TAC Xenta 451A and 452A are Universal Input/Analog Output modules in the TAC Xenta family. They can be used as normal Xenta I/O modules or as certified LonMark® devices.

Both modules have eight universal inputs and two analog outputs. The universal inputs can be used as digital, thermistor, current, or voltage inputs. In addition, the TAC Xenta 452A is equipped with LED status indicators - one for each universal input when used for digital inputs. There is also a manual override for the analog output values. The LED colors, red or green, can be selected individually by altering the parameter settings in the TAC Menta® graphical tool.

FUNCTIONAL FEATURES

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LonWorks systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

SPECIFICATIONS

Operating voltage	24 V AC/DC ±20%, 50/60 Hz or 21.6-40 V DC
Power consumption	max. 3 W
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (+32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Protocol	FTT-10, LonTalk®
Transmission rate	78 kbits/s
Universal inputs	
Quantity	8
Duration of counting pulse	min. 80 ms
Indication	Status LEDs, red or green adjustable via TAC Menta or manually (TAC Xenta 452A)
As thermistor input	NTC, 1800 ohm or 10 kohm at 25°C (77°F)
As voltage input	0 – 10 V DC
As current input	0 (4) - 20 mA
Analog outputs	
Quantity	2
Output signal	0 – 10 V DC
Manual switch	MAN, AUTO and Pot. 0 – 10 V (TAC Xenta 452A)

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0285-0 TAC Xenta 451A without LEDs, without manual switches
0-073-0286-0 TAC Xenta 452A with LEDs, with manual switches
0-073-0902-0 TAC Xenta 400 terminal part

TAC Xenta 471
Analog Input Module

For connecting analog, active, current and voltage signals. The analog input module is only to be used in combination with the TAC Xenta 300/401 basic controllers.

FUNCTIONAL FEATURES

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LonWorks systems
- Perfect for distributed installations
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

SPECIFICATIONS

Operating voltage	24 V AC ±20%, 50/60 Hz, 19 - 40V DC
Power consumption	max. 10 W
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Protocol	FTT-10, LonTalk®
Transmission rate	78 kbits/s

Ambient temperature

Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0°C to +50°C (+32°F to 122°F)
Humidity	max. 90% RH non-condensing

Analog inputs

Quantity	8

Input signal

Current Input	0(4) – 20 mA, Input resistance 20 ohm
Internal power supply	200 mA, max
Voltage Input	0 – 10V DC, Input resistance 100k ohm
Max. Input voltage	24 V DC

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0291-0 TAC Xenta 471
0-073-0902-0 TAC Xenta 400 terminal part

TAC Xenta 491/492
Analog Output Module

For issuing analog actuating signals. The analog output module is only to be used in combination with the TAC Xenta 300/401 basic controllers. The TAC Xenta 492 is equipped with manual override switches for the analog outputs.

FUNCTIONAL FEATURES

- Universal inputs provide installation flexibility
- Designed for TAC Vista and open standard LonWorks systems
- Perfect for distributed installations
- Manual override switches provide local bypass operation
- Cost-effective installation and maintenance using separate terminal base and plug-in electronic units
- Individually configurable using the TAC Menta programming tool

SPECIFICATIONS

Operating voltage	24 V AC/ ±20%, 50/60 Hz, 19 - 40V DC
Power consumption	max. 2 W
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Protocol	FTT-10, LonTalk®
Transmission rate	78 kbits/s

Ambient temperature

Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0°C to +50°C (+32°F to 122°F)
Humidity	max. 90% RH non-condensing

Analog outputs

Quantity	8
Output signal	0 – 10 V DC
Manual switch	MAN, AUTO and Pot. 0 – 10V DC (TAC Xenta 492)

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0301-0 TAC Xenta 491 without manual switches
0-073-0303-0 TAC Xenta 492 with manual switches
0-073-0902-0 TAC Xenta 400 terminal part

TAC Xenta Operator Panel

For convenient local operation of TAC Xenta controllers. Input is via 6 control keys and information is displayed in the clear LCD display. The LCD display's background lighting can be switched off, if not required, by changing the relevant parameter. The operator panel is connected to the controller with a plug-and-socket connection and supplied with power through the cable connector. It can also be directly connected to the LonWorks network.

The user can access all controllers connected to the network from one connection. The operator panel allows the current operating status to be checked and allows changes to be made to setpoints, time schedules etc. without connecting to a central system. In addition to allowing mobile deployment, the unit also supports the convenient plug-in installation to a TAC Xenta controller or can be mounted into the switchgear cabinet door. Modern and functional design. Compliant with TAC Xenta 100, TAC Xenta 280, TAC Xenta 300 and TAC Xenta 401.

FUNCTIONAL FEATURES

- Easy to use Operator Panel
- Backlit display with 4 X 20 alpha-numeric characters
- Supports TAC Xenta 100, 280, 300 and 400 series of controllers
- Downloadable character sets like Cyrillic.
- Communicates over the LonWorks network
- One OP panel can support a number of Xenta units
- The Operator panel can be snapped on the Xenta controller or mounted in the front of a cabinet

SPECIFICATIONS

Operating voltage	24 V AC/DC ±20% from TAC Xenta or external
Power consumption	max. 0.5 W
Dimensions incl. base	114 x 96 x 34mm (4.5″ x 3.8″ x 1.3″)
Protocol	FTT-10, LonTalk
Transmission rate	78 kbits/s
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Display	4 x 20 characters alpha-numerical, backlit
Type of protection	IP 20 / IP 43

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0907-2 TAC Xenta OP Operator Panel

ACCESSORIES

0-073-0904-0 TAC Xenta OP mounting kit panel

Zone Controllers

TAC Xenta
Zone Controllers

FUNCTIONAL FEATURES

- Air-quality control with CO_2 measurement
- PI control with P-band and I-time setting
- Seven different types of operation
- Neutral zone between heating and cooling
- On demand override of the wall module by the occupancy sensor, window contact or bypass control switch
- Individual setpoint adjustment
- Zone sensors with the ability to connect to a TAC Xenta LonWorks Operator Panel
- LonMark® certified

TAC Xenta zone controllers are individual room controllers based on LonWorks® for controlling and optimizing secondary heating/cooling systems. The TAC Xenta zone controllers are specifically designed for zone applications and include hardware and software. The controllers can be adapted to individual requirements using the flexible configuration settings. Parameters can be set on site using the TAC Xenta Operator Panel or centrally using the TAC Vista central system. Room sensors with setpoint adjuster make on demand adjustments possible. Unlike traditional zone controllers, intelligent LonWorks® based devices can also be controlled directly via the bus.

The individual room controllers are integral components in a building's automation system and communicate via the LonWorks® bus with the TAC Xenta controllers and the TAC Vista central system. Dynamic data exchange allows on demand optimization of the primary systems while maintaining comfortable conditions. To ensure optimal functionality, individual room controllers and/or parameters can be organized into groups so that several controllers can be set simultaneously. Groups also allow statistical evaluations and can therefore optimize the whole system. All TAC Xenta individual room controllers are LonMark® certified and allow completely open communication with other systems within a LonWorks® network.

TAC Xenta Zone Controllers Overview

Controllers	Xenta 101-VF	Xenta 121- FC	Xenta 102-B	Xenta 102-EF	Xenta 102-VF	Xenta 102-ES	Xenta 102-AX	Xenta 103-A	Xenta 104-A	Xenta 110-D	Xenta 121-HP
Applications	Fan Coil	Fan Coil	Variable air volume (VAV)					Chilled Ceiling	Roof Top	Dual Zone	Heat Pump
Heating & air conditoning	▼	▼						▼			▼
3 speed fan	▼	▼									▼
On/ off fan		▼									▼
VAV				▼	▼	▼	▼				
VAV with electric heater				▼							
VAV with hot water battery											
0-10 V control						▼					
3 point control							▼				
VAV with on-board actuator & airflow transducer							▼				
Cooling control	▼	▼						▼		▼	▼
Changeover valve											▼
Isolation valve											▼
Lighting control – on/off, dimming & brightness										▼	▼
Control of motorized blinds										▼	▼
Mode of operation											
Comfort	▼	▼	▼	▼	▼	▼	▼	▼	▼		▼
Standby	▼	▼	▼	▼	▼	▼	▼	▼	▼		▼
Bypass	▼	▼	▼	▼	▼	▼	▼	▼	▼		▼
Unoccupied	▼	▼	▼	▼	▼	▼	▼	▼	▼		▼
Off		▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
Master/slave	▼	▼	▼	▼	▼	▼	▼	▼			▼
Heating only		▼						▼			▼
Cooling only		▼						▼	▼		▼
Fan on	▼	▼							▼		▼
Cooling/heating (changeover)		▼							▼		▼
Purge		▼	▼	▼	▼	▼	▼	▼			
Morning heating							▼				▼
Emergency pressurization/ depressurization							▼				

TAC Xenta 101-VF
Fan Coil Unit Controller

LonMark® certified individual room controllers for fan coil systems with heating and/or cooling. The heating/cooling switch can be centrally controlled, or controlled via the average temperature. Incoming air and room temperature can be controlled in sequence. Fans are controlled continuously, 3-speed or on-off depending on the fan coil controller type. The controller can be operated in a stand-alone system or within a LonWorks® network.

PI control with individual P-band and I-time settings for heating and cooling can be set. Values can be monitored and parameters can be set centrally via the central system or remotely with the TAC Xenta Operator Panel.

FUNCTIONAL FEATURES

- Various applications: Single-step control with cooling, heating or changeover operation for cooling/heating. Two-step control with cooling and heating in sequence. Fan control via 3-step relays, on/off or speed control.
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master controller.
- Setpoint adjustment via a wall module with setpoint adjuster, or via a LonWorks® network variable.
- Seven types of operation: comfort, stand-by, bypass, unoccupied, off, slave, fan only.
- Several fan operation modes.
- Min and Max values limit air flow.
- Alarm monitoring high or low room temperature, open window, temperature sensor error etc.
- Occupancy sensor, window contact and cool-down protection, CO_2 measurement input.

SPECIFICATIONS

Operating voltage	24 V AC or 230 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5″ x 5″ x 2″)
Ambient temperature	
Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30
Inputs and outputs	
Window contact	Digital input
Occupancy sensor	Digital input
Cooling valve	3-point, on/off or PWM control
Heating valve	3-point, on/off or PWM control
Fan	3-step (250 V / 3 A) 101-VF
Room temperature	Thermistor input
Inlet air temperature	Thermistor input
Wall module	As selected

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0505-0 TAC Xenta 101-VF/24 Fan Coil Unit heating/cooling, Fan 3 steps
0-073-0507-0 TAC Xenta 101-VF/230 Fan Coil Unit heating/cooling, Fan 3 steps

TAC Xenta 102-B, 102-EF, 102-VF VAV Controllers

LonMark® certified individual room controllers for VAV applications (Variable Air Volume) connected to an external air flow controller (Belimo VAV Compact). The controller keeps a constant temperature in the zone by controlling the air flow, optional heating stages, and fan in sequence. By using a carbon dioxide sensor, the air quality can be controlled in the zone. The controller can be operated stand-alone or within a LonWorks® network. PI control with individual P-band and I-time setting for heating and cooling. Can be monitored and parameters can be set centrally via the central system or remotely with the TAC Xenta LonWorks® Operator Panel.

FUNCTIONAL FEATURES

- Various applications: Single-step control with setpoint calculation of an external air flow controller. Two-step setting with cooling and heating in sequence. Heating operation via an electric reheater or hot water.
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master.
- Setpoint adjustment via a wall module with setpoint adjuster or via a LonWorks® network variable.
- Seven modes of operation: comfort, standby, bypass, unoccupied, off, slave and purge mode.
- Air quality based adjustments.
- Configurable limit values MIN and MAX air flow limit.
- Alarm monitoring high or low room temperature, open window, temperature sensor error, etc.
- Occupancy sensor, window contact and cool-down protection, CO_2 measurement input.

SPECIFICATIONS

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5″ x 5″ x 2″)

Ambient temperature

Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30

Inputs and outputs

Window contact	Digital input
Occupancy sensor	Digital input
Air damper	0 – 10 VDC
Heating valve	2-point output (102-EF); 0 - 10 VDC (102-VF)
Room temperature	Thermistor input
Air flow	0 – 10 VDC
CO_2 sensor	0 – 10 VDC
Wall module	As selected

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0531-0 TAC Xenta 102-B VAV Controller
0-073-0533-0 TAC Xenta 102-EF VAV Controller electrical reheat
0-073-0535-0 TAC Xenta 102-VF VAV Controller valve reheat

TAC Xenta 102-ES VAV Controller

LonMark® certified individual room controller for VAV applications (Variable Air Volume flow) connected to an external air flow sensor (TAC GV). The controller is intended primarily for VAV cooling applications with one or two stages of reheating. The controller keeps a constant temperature in the zone by controlling the air flow and heating stages. By using a carbon dioxide sensor, the air quality can be controlled in the zone. The controller can be operated stand-alone or within a LonWorks® network. PI control with individual P-band and I-time setting for heating and cooling. Can be monitored and parameters can be set centrally via the central system or remotely with the TAC Xenta Operator Panel.

FUNCTIONAL FEATURES

- Various applications: Single-step control via external air flow sensor and heating in sequence. Heating operation by modulating hot water radiator valve.
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master.
- Setpoint adjustment via a wall module with setpoint adjuster or via a LonWorks® network variable.
- Seven modes of operation: comfort, standby, bypass, unoccupied, off, slave and purge mode.
- Air quality based adjustments.
- Configurable limit values MIN and MAX air flow limit.
- Alarm monitoring high or low room temperature, open window, temperature sensor error, etc.
- Occupancy sensor, window contact and cool-down protection, CO_2 measurement input.

SPECIFICATIONS

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5″ x 5″ x 2″)
Ambient temperature	
Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30
Inputs and outputs	
Window contact	Digital input
Occupancy sensor	Digital input
Air damper	3-point output
Heating valve	3-point or on/off
Room temperature	Thermistor input
Air flow sensor	Tube connection
CO_2 sensor	0 – 10 VDC
Wall module	As selected
Optional	Temperature input

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0537-0 TAC Xenta 102-ES VAV Controller valve reheat

TAC Xenta 102-AX VAV Controller

with Onboard Actuator and Air Flow Transducer

TAC Xenta 102-AX is a LonMark® compliant individual room controller intended for VAV heating and cooling applications with one or two stages of reheating. The controller keeps a constant temperature in the zone by controlling the air flow and heating stages. By using a carbon dioxide sensor, the air quality can be controlled in the zone. TAC Xenta 102-AX is equipped with an integrated, static air velocity transducer and a motorized bidirectional actuator in a single package. The differential pressure air velocity transducer requires a minimum of maintenance. Thus it is also well suited to be placed in the zone return air duct.

FUNCTIONAL FEATURES

- Various applications: Single-step VAV controller via internal air flow sensor and heating in sequence up to 3 stages.
- Setpoint adjustment via STR 200, 202 or 250 wall modules or via a LonWorks® network variable.
- Seven modes of operation: occupied, standby, bypass, unoccupied, morning warm up, purge mode and emergency pressurization/ depressurization.
- Air quality based adjustments.
- Fan control can be enabled/ disabled either in parallel or serial mode.
- Alarm monitoring high or low room temperature, open window, temperature sensor error, etc.
- Occupancy sensor, CO_2 measurement input.

SPECIFICATIONS

Operating voltage	24 V AC ±20%
Power consumption	8 VA
Dimensions	197 x 159 x 63mm (7.7" x 6.3" x 2.5")

Ambient temperature

Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30

Inputs and outputs

Occupancy sensor	Digital input
Reheater	Triac 24 V AC, voltage sourcing, max. 0.75 A
Torque	6 Nm
Stroke	0 – 90 degrees
Timing	2.4 sec/degree rotation (50 Hz)
Temperature	Thermistor input 10k ohm NTC
Wall module	As selected

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0540-1 TAC Xenta 102-AX VAV Controller with Actuator and Air Flow Transducer

ACCESSORIES

0-046-300-0 STR200 Wall Module
0-046-301-0 STR200-W Wall Module (White)
0-046-320-0 STR202 Wall Module
0-046-330-0 STR250 Wall Module

TAC Xenta 103-A
Chilled Ceiling Controller

LonMark® certified individual room controller for chilled ceiling applications. The controller keeps a constant temperature by modulating the cold water flow to the ceiling elements, the hot water flow to the radiators, and the air flow through the damper. The controller can be operated on a stand-alone basis or within a LonWorks® network. PI control with individual P-band and I-time setting for heating and cooling. Can be monitored and parameters can be set centrally via the central system, or remotely via the TAC Xenta Operator Panel. Air-quality based adjustments when a CO_2 sensor is connected.

FUNCTIONAL FEATURES

- Various applications: Room temperature control via chilled ceiling, in sequence with damper and radiator valve modulating the hot water. Choice of heating/cooling, only heating or only cooling (water and/or air).
- Slave function mode of operation and setpoint for several slave controllers are controlled by one master controller.
- Setpoint adjustment via a wall module with setpoint adjuster or via a LonWorks® network variable.
- Seven modes of operation: comfort, standby, bypass, unoccupied, off, slave and purge mode.
- Air quality based adjustments.
- Configurable limit values.
- Alarm monitoring high or low room temperature, open window, temperature sensor error etc.
- Occupancy sensor, window contact and cool-down protection, CO_2 measurement input.

SPECIFICATIONS

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	127 x 126 x 50mm (5″ x 5″ x 2″)

Ambient temperature

Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30

Inputs and outputs

Window contact/hygrostat	Digital input
Occupancy sensor	Digital input
Cooling valve	0 – 10 VDC
Air damper	0 – 10 VDC
Heating valve	3-point or on/off
Room temperature	Thermistor input
CO_2 sensor	0 – 10 VDC
Wall module	As selected

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0561-0 TAC Xenta 103-A Chilled Ceiling Controller

TAC Xenta 104-A
Roof Top Unit Controller

LonMark® certified controller for small air handling systems and roof top units for heating, cooling and heat recovery. The room temperature is held at a constant temperature with sequential control of the heating, cooling and heat recovery functions. Inlet air and room air temperature can be set in cascade. The fan mode may be selected to operate continuously during the occupied mode, or cycle with heating or cooling demand from the zone. PI control action with individual P-band and I-time setting for heating and cooling. The controller can be operated on a stand-alone basis or within a LonWorks® network. Can be monitored and parameters can be set centrally via the central system or remotely via the TAC Xenta Operator Panel.

FUNCTIONAL FEATURES

- Various applications: Single-step control with cooling, heating or changeover operation for cooling/heating. Two-step control with sequential cooling and heating.
- Three-point control of the heating and cooling valves.
- Relay output for fan control.
- Setpoint adjustment via a wall module with set point adjuster or via a LonWorks® network variable.
- Various modes of operation: heating only, cooling only, fan only, cooling/heating (changeover), on, unoccupied, standby and bypass.
- Various types of fan operation.
- Configurable limit values MIN and MAX limit the inlet air temperature.
- Alarm monitoring high or low room temperature, temperature sensor error, fan error, etc.

SPECIFICATIONS

Operating voltage	24 V AC ±20%
Power consumption	4 VA
Dimensions	126 x 122 x 50 mm (5″ x 4.8″ x 2″)
Ambient temperature	
Operation	-25°C to +50°C (-13°F to 122°F)
Storage	–25°C to +50°C (–13°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30
Inputs and outputs	
Fan alarm/status	2 digital inputs
Cooling valve	3-point output
Heating valve	3-point or 2 stages
Fan control	Relay output 24 V / 2A
Room temperature	Thermistor input
Inlet air temperature	Thermistor input
Discharge/mixed temperature	Thermistor input
Wall module	As selected

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0591-0 TAC Xenta 104-A Roof Top Unit Controller

TAC Xenta 110-D
Dual Zone Controller

LonMark® certified individual room controllers for cost-effective individual room solutions of climate control, lighting control, dimming and window control. Seven LonMark® profiles are available for various applications. Configuring these as master or slave controllers means that zone/group requirements can be generated, and that they can interact with additional controllers in the TAC Xenta 100 family. The controller can be operated on a stand-alone basis or within a LonWorks® network. Can be monitored and parameters can be set centrally via the central system or remotely with the TAC Xenta Operator Panel.

FUNCTIONAL FEATURES

- Various applications: Single-step control with cooling or heating.
- Two-step control with cooling and heating in sequence, two-point control of the heating and cooling valves.
- Light control on/off, dimming and brightness control with lux sensor.
- Window control opening/closing and window contact, interlock of the window contacts with blind stop.
- Occupancy detection via digital input or LonWorks® network variable (SNVT).
- Possibility of combining with TAC Xenta 101, TAC Xenta 102, TAC Xenta 103 and TAC Xenta 104 for a wide range of individual room applications.
- Operation options via direct inputs for conventionally connected switches and setpoint adjuster or via LonWorks® network variables from a room control panel or via the virtual control panel, TAC Vista ScreenMate, on the Intranet.

SPECIFICATIONS

Operating voltage	24 V or 230V AC ±20%
Power consumption	4 – 80 VA ±10%
Dimensions	126 x 122 x 50mm (5″ x 4.8″ x 2″)
Ambient temperature	
Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30
Inputs	
Setpoint adjuster	2 x 10 kohm potentiometer
Zone temperature	2 x thermistor NTC, 1800 ohms at 25°C (77°F)
Bypass, light, occupancy	3 x digital
Outputs	
Dimming	1 x 0 – 10 V, max 2 mA
Light control	4 x relay, 250 V 3 A (resistive), 250W (HF Lamps)
Heating/cooling valve	4 x triac for thermal actuators, 110-D/24 max 0.8 A 110-D/230 max 0.5 A

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0601-0 TAC Xenta 110-D/24 Dual Zone Controller
0-073-0603-0 TAC Xenta 110-D/230 Dual Zone Controller

TAC Xenta 121-FC
Programmable Fan Coil Controller

TAC Xenta 121-FC is an easily programmable controller intended for both 2-pipe and 4-pipe applications, with or without re-heat. It can be configured for use with a multitude of valve actuator types, such as on/off, multistage, increase/decrease, PWM, etc. The controller has different types of fan control and advanced fan control functions, including on/off delays, boosting and conditioning.

The sequences for cooling, heating and fan are completely user programmable, allowing for numerous different applications. For energy savings the controller has built-in economizer functionality. Use TAC Xenta 121-FC with any TAC STR room unit.

Set-up is done using the programming tool TAC ZBuilder, which can be run stand-alone or as a device plug-in to either TAC Vista or LNS. The configuration settings are downloaded into a TAC Xenta 120, prepared with the necessary basic application software.

The controller is a LonMark® compliant device aimed at communicating on a LonTalk® TP/FT-10 channel. It is able to operate both as a stand-alone device and as part of a system. Input and output network variables can be monitored via the TAC Xenta OP, but programming relies on the use of the TAC ZBuilder.

FUNCTIONAL FEATURES

- The controller is designed for both 2 and 4 pipe installations
- Multi-functional Heating and Cooling: heating, cooling and secondary heating
- Multi-stage Fan Control: up to three stages or analog speed control
- Indoor Air Quality Control: full support for CO_2 and RH (Relative Humidity) functions
- Exception modes take care of abnormal conditions like fire or risk of frost
- Configurable In- and Outputs: all inputs and outputs are configurable to minimize installation cost

SPECIFICATIONS

Operating voltage	
FC/24	24 V AC ±20%, 50–60 Hz
FC/230	230 V AC ±10%, 50–60 Hz
Power consumption	5 VA
Dimensions	126 x 122 x 50mm (5″ x 4.8″ x 2″)
Ambient temperature	
Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30
Digital inputs	3, (X1-X3) NO/NC
Thermistor inputs	2, (B1-B2) NTC 1.8 kohm at 25°C (77°F)
Universal input	1, (U1), configurable as thermistor, digital or analog input
Potentiometer input	1, (R1) 10 kohm
Triac outputs	4, (V1-V4) 24 V AC Intern. supplied
Relay outputs	3, (K1-K3) 250 V AC, 3A
Relay output	1 (K4) FC24 24 V AC, FC230 250VAC, 3A
Voltage output	1 (Y1) 0-10 V DC

DESCRIPTION

0-073-0621-0 Contr Zone TAC Xenta 121-FC/24
0-073-0622-0 Contr Zone TAC Xenta 121-FC/230
0-073-0914-0 LNS Plug-in

TAC Xenta 121- HP Programmable Heat Pump Application

The sequences for cooling, heating and fan are completely user programmable, allowing for numerous different applications. For energy savings, the controller has built-in economizer functionality. Use TAC Xenta 121-HP with any TAC STR room unit. Set-up is done using the programming tool TAC ZBuilder, which can be run stand-alone or as a device plug-in to either TAC Vista or LonMaker®. The configuration settings are downloaded into a TAC Xenta 100, prepared with the necessary basic application software. The controller is a LONMARK® compliant device aimed at communicating on a LonTalk® TP/FT-10 channel. It is able to operate both as a stand-alone device and as part of a system. In- and output network variables can be monitored via the TAC Xenta OP.

FUNCTIONAL FEATURES

- The controller is designed for both water-sourced and air-sourced heat pump installations
- Multi-functional Heating and Cooling: the controller handles heating, cooling and secondary heating
- Multi-stage Fan Control: The Xenta 121 controller handles up to three stages or analog speed control
- Indoor Air Quality Control functions: Full support for CO_2 and RH (Relative Humidity) functions
- Exception modes take care of abnormal conditions like fire, compressor lockout or risk of frost
- Handles reversing and isolation valves
- Configurable In- and Outputs: All inputs and outputs are configurable to minimize installation cost

SPECIFICATIONS

Supply Voltage	
HP/24	24 V AC ±20%, 50–60 Hz
HP/230	230 V AC ±10%, 50–60 Hz
Power consumption	5 VA
Dimensions	126 x 122 x 50mm (5″ x 4.8″ x2″)
Ambient temperature	
Operation	0°C to +50°C (32°F to 122°F)
Storage	–20°C to +50°C (–4°F to 122°F)
Humidity	max. 90% RH non-condensing
Enclosure rating	IP 30
Digital inputs	3, (X1-X3) NO/NC
Thermistor inputs	2, (B1-B2) NTC 1.8 kohm at 25°C (77°F)
Universal input	1, (U1), configurable as thermistor, digital or analog input
Potentiometer input	1, (R1) 10kohm
Triac outputs	4, (V1-V4) 24 V AC Intern. supplied
Relay outputs	3, (K1-K3) 250 V AC, 3A
Relay output	1 (K4) HP24 24 V AC, HP230 250VAC, 3A
Voltage output	1 (Y1) 0-10 V DC

DESCRIPTION

0-073-0631-0 Contr Zone TAC Xenta 121-HP/24
0-073-0632-0 Contr Zone TAC Xenta 121-HP/230
0-073-0914-0 LNS Plug-in

TAC Xenta OP
LonWorks® Operator Panel

For convenient local operation of TAC Xenta controllers and individual room controllers. Input is via 6 control keys. Information is shown on a clear LCD display. The background lighting of the LCD can be switched off by changing the relevant parameter. The Operator Panel is connected to the individual room controller via a wall module and supplied with power via a connecting cable. Alternatively, a direct connection to the LonWorks® network is also possible. The user has access to all TAC Xenta units connected to the network via one TAC Xenta OP. The Operator Panel allows the current operating status to be checked and changes to be made to setpoints, limit values, parameters etc., without connecting to a central system. The modern and functional design supports a variety of mounting options allowing mobile deployment.

FUNCTIONAL FEATURES

- Accesses the TAC Xenta network for values, parameters, alarms and time schedules
- Supports local characters
- Access Xenta 100/120 via STR module
- Any LonWorks device can be connected
- Silicone buttons

SPECIFICATIONS

Operating voltage	24 V AC/DC from the TAC Xenta or external
Power consumption	max. 0.5 W
Dimensions	144 x 96 x 34mm (4.5″ x 3.8″ x 1.3″)
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Display	4 X 20 characters alpha-numerical, backlit
Enclosure rating	IP 20 / IP 43
Network communication	FTT-10, LonWorks®
Transmission rate	78 kbit/s

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0907-2 TAC Xenta OP Operator Panel

ACCESSORIES

0-073-0904-0 TAC Xenta OP mounting kit panel

Security

TAC Vista
Security Controllers

TAC Vista Security provides a complete security solution that is fully integrated with Vista, using your building's administrative TCP/IP network. Security devices and building control devices can share information, connected through a common architecture and network.

SIMPLE TO INSTALL
TAC Vista Security is designed to be easy to install. Adding this solution to your Vista system is as simple as ordering the license option, then connecting the security hardware devices using the TAC Xenta 527 embedded web and infrastructure product. This same product provides field integration with Xenta LonWorks® networks as well as providing security integration with TAC Vista.

EASY TO CONFIGURE
Only a limited amount of user intervention is needed to establish devices on the network. The configuration is intuitive and simple. You just add a TAC Xenta 527 to the Vista device list, and the rest of the setup process is primarily automated.

POWERFUL TO USE
By making use of TAC's experience in security solutions, TAC Vista Security gives users a system that is easy to operate yet provides extremely powerful security capabilities. TAC Vista Security allows comprehensive access control and well designed functions that permit intruder detection monitoring to be established where needed. The open protocol and multiple secondary protocol connections mean that interfaces to, for example fire systems thru MODBUS, are easy to achieve.

TAC Xenta 527

The TAC Xenta 527 is a comprehensive presentation system, which enables secure web access to both TAC I/NET Seven and TAC Vista™ networks simultaneously. It provides you with the freedom to monitor your system from any location with Internet access. With automatic network discovery of TAC I/NET systems, the only configuration needed is to point the Xenta 527 to TAC I/NET's NetPlus™ Routers or TAC I/NET Hosts. After that, your entire TAC I/NET network is immediately available through the web interface.

You can access any point in your system, either through the convenient browse functionality, or via a graphic page link. Comprehensive control features include changing values such as set points, optimization parameters, and PID parameters. Manual control features such as test, hold, and manual are all supported as well as acknowledge, and momentary release for doors.

FUNCTIONAL FEATURES

- Real time graphics and dynamic data
- Simultaneous presentation of TAC I/NET and TAC Vista systems
- Trend logging and analysis
- Time scheduling
- Time synchronization
- Alarm management
- Alarm notification via email
- Device mode management
- Event viewing and filtering
- Point control
- Operator security
- Personal home page
- Wireless sensor support
- Embedded Net Plus router
- Peer to Peer linking of TAC I/NET to LON signals
- Configurable Encryption for TAC I/NET I/P communications
- Supports DNS and DHCP configurations
- Comprehensive SNMP integration
- On-board Controller LAN connection

SPECIFICATIONS

Supply voltage . . . . . .24 V AC ±20%, 50/60 Hz or 19–40 V DC
Power consumption . . . . . .max. 5 W
Transformer sizing . . . . . .5 VA

Ambient Temperature
Storage. . . . . .–20 °C to +50 °C (–4 °F to +122 °F)
Operation . . . . . .0 °C to +50 °C (+32 °F to +122 °F)
Humidity . . . . . .max. 90% RH non-condensing

Mechanical
Dimensions. . . . . .90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Weight . . . . . .0.2 kg (0.44 lb.)
Enclosure rating . . . . . .IP 20

Real Time Clock
Accuracy at +25 °C (77°F) . . . .±12 minutes per year
Power failure protection. . . . . .72 h

Communication
A: RS232 . . . . . .2400 – 57600 bps, RJ45, 8-p
A: RS485 . . . . . .2400 – 57600 bps, async. terminal block
B: RS232 . . . . . .RJ10, 4-p
C: RS485 . . . . . .sync. (SDLC) terminal block
LonWorks. . . . . .TP/FT-10, terminal block
Ethernet . . . . . .TCP/IP, 10Base-T, RJ45

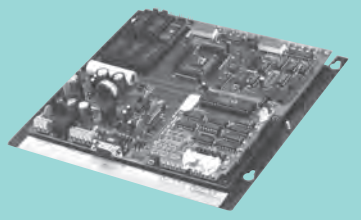
Memory
Internal memory. . . . . .16 MB
External memory . . . . . .expandable with MMC
(4 – 128 MB, MMC card)

DESCRIPTION

0-073-0820-0 Electrical part TAC Xenta 527

ACCESSORIES

0-073-0902-0 Terminal part TAC Xenta 400
0-073-0920-0 TAC Xenta: Programming Serial Kit



7790A MCI MicroController Interface

The TAC I/NET™ 7790A MicroController Interface provides a "Gateway" between TAC's token passing, Peer-to-Peer Controller LAN and a network of standalone MicroControllers. The MCI also functions as a network controller for a standalone system. The MCI provides global functions for the MicroControl Units. These global functions include: Access Initiated Control, Elevator Control, Event Initiated Control, Trending, Runtime Accumulation, Automatic Time Scheduling, Calculations, Anti-Passback and periodic synchronization of the local clocks in the MicroControl Units.

FUNCTIONAL FEATURES

- Integration
  – Environmental
  – Access Control
  – General Purpose
- MicroControl units supported
  – 123 Series MicroRegulators™
  – SCU1284 Security Control Unit
  – SCU1280 Security Control Unit
  – SCU1200 Security Control Unit
- Peer-to-Peer, Token Passing LAN standard
- Dual MicroController Sub-LANs
  – 16 SCUs per MCI
  – 64 MRs per MCI
  – 64 MicroControl Units per MCI (SCU and MR combined)
  – Mix and Match Controllers on the Sub-LANs
- Counter-Scanning Loop Option
- Front End Controller for Standalone System
  – Supports up to 64 Doors
  – Supports up to 64 HVAC Equipment Units
- Remote Operation over Dial-Up Phone Lines
- Fiber Optic Compatible
- Local Ports for PC or Modem
- Auto Dial/Auto Answer Modem-Option Board
- Modular, Object-Oriented Programming
- Gateway for Global Control Functions
- Resident Programs for:
  – Access Initiated Control
  – Elevator Control
  – Environmental Control
  – Energy Management
  – Historical Data Collection

SPECIFICATIONS

Operating voltage	24 V AC
Power consumption	40 VA max.
Dimensions	245 x 255 x 15mm (9.65" x 10" x 0.6")
Channels	2 per MCI
Controllers	Maximum 64 MicroControl Units per MCI

DESCRIPTION

7790A-C MicroController Interface – Baseplate Mounted

ACCESSORIES

RS232EXP-C	**Synchronous two-way modem card (w/o modem) – Plugs on to 7790 base card**
CBL072	**Cable, Controller DE9 to PC DE9, 6 ft (1.83 m)**
CBL074	**Cable, Controller DE9 to Modem DB25, 6 ft (1.83 m)**
TCON109	**7790 LAN Interface Unit Installation Guide – Hardware platform for MCI**

7798
I/SITE™ LAN Integrated Site Controller

The 7798 I/SITE LAN is a standalone unit that uses the MicroRegulator™ (MR) and Security Control Unit (SCU) controllers to provide building management services targeted at the requirements of managing smaller buildings or buildings in remote locations. The 7798 I/SITE LAN allows the operator or building manager to control the building through a ViewCon, a local host PC connection, a modem to a remote PC or an optional TAC Controller LAN network. When connected to a TAC I/NET™ host PC via modem, direct connection or optional controller LAN network, the I/SITE LAN becomes an interface between the MR and DPU sub-controllers and a larger TAC I/NET Distributed Control System. The I/SITE™ LAN supports up to eight telephone numbers for use with the AA/AD modem function.

The I/SITE LAN provides global functions for the MRs and DPUs. These global functions include: Access Initiated Control, Anti-Passback, Demand Control, Event Initiated Control, Trending, and Runtime.

FUNCTIONAL FEATURES

- ViewCon™ keypad display
  – Built-in operator interface
  – Custom pages & standard summaries
  – Password protected
- Sub-LAN port for connection of up to 32 MicroRegulators™ and/or Door Processor controllers in any combination
  – Open or closed loop sub-LAN
  – Communications through both primary and alternate paths
- Local Port for PC or Printer
- Local Port for Auto Dial/Auto Answer modem
- Attractive plastic enclosure suitable for wall mounting in public areas
- Controller LAN option board
  – Global control functions
  – Peer-to-Peer, token passing network
- Trends all connected points
- Modular, Object-Oriented Programming
- Resident programs for:
  – Access Control
  – Environmental Control with DDC
  – Energy Management
  – Historical Data Collection

SPECIFICATIONS

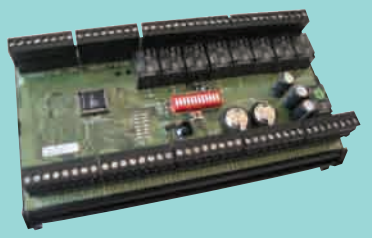
Operating voltage	24 V AC
Channels	1 per I/SITE LAN
Controllers	.Maximum 32 MicroController units per 7798 I/SITE LAN

DESCRIPTION

7798B1-C I/SITE LAN Integrated Site Controller

ACCESSORIES

CLX-C	**I/SITE Controller LAN Expansion Option, RS-485 – Plugs on to 7798 base unit**
CBL072	**Cable, Controller DB9 to PC DB9, 6 ft (1.83m) – 9-pin Serial Cable**
CBL074	**Cable, Controller DB9 to Modem DB25, 6 ft (1.83m) – 25-pin Modem Cable**
XFMR6	**Transformer 120 Vac Primary, 24 V/2.4 A Secondary**
XFMR7	**Transformer 240 Vac Primary, 24 V/2.4 A Secondary**
TCON138	**Model 7798 I/SITE LAN Installation Guide**



TAC I/NET Security Control Unit Models 1284, 1280, 1200

The SCU (Security Control Unit) family of modular, stand-alone controllers are basic building blocks of the I/NET Seven Security Management System, and provide a flexible mix of door control and alarm monitoring features. Three versions of the SCU are available. The SCU1284 is a door controller for up to 4 doors, with 12 supervised inputs and 8 Form C relay outputs. The SCU1280 is an input output controller with 12 supervised inputs and 8 Form C relay outputs. The SCU1200 is an input controller with 12 supervised inputs. All SCUs function as either stand-alone devices or as part of a larger local area network (LAN) host system.

FUNCTIONAL FEATURES

- Robust, stand-alone four-door access controller
- Up to four readers and four doors per controller for flexible configurations
- Flash memory for easy online software updates
- Supports two-man rule and escorted access for increased security
- Configurable audio tones to indicate valid card read, invalid card read, and other types of events
- Large alarm buffer protects integrity of alarm data
- Small footprint for easy installation
- Dynamic memory management allows maximum storage of card holders and transactions
- Wide range of enclosures, battery options, and power options lowers installation costs

SPECIFICATIONS

Operating voltages

SCU12xxE1	115 V AC
SCU12xxE2	115 V AC / optional battery
SCU12xxE3	230 V AC

Power consumption

SCU12xx	24 V AC 1.2A max
SCU12xxE1 or E2	115 V AC 75 VA max
SCU12xxE3	230 V AC 75VA max (50/60 Hz ±15%)

Dimensions

Mounted controller Size	216 x 127 x 64mm (8.5" x 5" x 2.5")
Enclosure type	Nema 1 (IP10) Style - Indoor
Size	362 x 413 x 108mm (14.25" x 16.25" x 4.25")
Inputs and outputs	14 inputs, 8 outputs

DESCRIPTION

SCU1200	12 Input Controller
SCU1280	12 Input 8 Output Controller
SCU1284	12In 8Out 4Door 4Read Control
SCU1200E1	12DI DIN With transformer
SCU1280E1	12DI 8DO DIN With transformer
SCU1284E1	4 Read 12DI 8DO DIN,transformer
SCU1200E2	12DI DIN, transformer, battery
SCU1280E2	12DI 8DO DIN, transformer, batt
SCU1284E2	4Read 12DI 8DO DIN,transf,batt
SCU1200E3	12DI 8DO DIN 230V,transformer
SCU1280E3	12DI 8DO DIN With transformer
SCU1284E3	4Read 12DI 8DO DIN 230V,transf

ACCESSORIES

Recommended enclosure Model ENCLSCU
Recommended transformers Mounting in ENCLSCU enclosure Model XFMR6 (115V) Model XFMR7 (220/240V)
DIN rail mounting Model TR32 (220/240V)

7798C (SLI) Sub-LAN Interface

The 7798C sub-LAN interface (SLI) functions as an intelligent hub managing a network of MicroControllers and other controllers in a larger TAC I/NET™ distributed control system. The SLI provides global functions for the Micro-Controllers, including: Access-initiated Control, Elevator Control, Event-initiated Control, Trending, Runtime Accumulation, Automatic Time Scheduling, Calculations, Anti-passback, and periodic synchronization of the local clocks in the MicroControllers.

FUNCTIONAL FEATURES

- Up to 6400 SLI's per TAC I/NET system
- Supports up to 32 SubLAN devices
- Built in controller LAN interface
- Provides local workstation connection
- Expanded memory 1MB for extra capacity
- Software downloadable for updates
- Purpose designed for reduced installation cost

SPECIFICATIONS

Operating voltage	24 V AC
Power consumption	24 V AC, ±10%, 50/60Hz, 10 V A (max)
Backplate dimensions	165 x 203 x 44mm (6.50" x 8.00" x 1.75")
PCB dimensions	203 x 244 x 6 mm (8.00" x 9.63" x 0.25")
Channels	1 sub-LAN per 7798
Controllers	32 MR per sub-LAN or 16 SCUs

DESCRIPTION

7798C Controller with 1024K RAM

ACCESSORIES

Recommended Power Supply XFMR6, (110V) XFMR7, (220V)
Cable for PC-emulated HHC CBL082

Network Infrastructure Products

TAC Xenta
Network Infrastructure

- Connect the PC to the network via telephone/IP/LonWorks® adapters
- LonWorks® adapters connect to PC via USB/Serial port/PCI/IP
- Plug and Play network design using intelligent LonWorks® routers and switches
- Easy to use IP to LonWorks routers make the IP network the natural backbone in the LonWorks® network
- Network trouble shooting via the LPA
- I/Net integration to TAC Vista via Xenta 911
- High resolution local graphics in L-VIS

TAC Network infrastructure product line enables seamless integration between IP network, field buses and telephone lines. It gives a variety of methods to connect a PC to the network. It includes a gateway for I/Net to be integrated into TAC Vista. It allows for optimized LonWorks® network design and structure also using different types of routers, both for LON to LON and IP to LON connections.

LonWorks® network quality is improved using terminators, and can be extended via repeaters or routers. Problems on the network are detected using the Protocol analyzer.

The TAC Network infrastructure includes all necessary components to design a scalable and durable LonWorks® network.

L-VIS is a high resolution touch-screeen display used for graphical presentation and control locally on the network

Communication Modules	Function			
	Web Server	LonTalk Adaptor / Telephone Line	LonTalk Adaptor / Ethernet Network	LonWorks Interface / MODBUS, BACnet etc.
TAC Xenta 511	▼		▼	
TAC Xenta 901		▼		
TAC Xenta 911		▼	▼	
TAC Xenta 913				▼

TAC Xenta 901
Serial LonTalk® Adapter

The TAC Xenta 901 is a serial LonTalk® adapter, designed to let TAC Vista reach a LonWorks® network via a dial-up line. When the modem line between TAC Xenta 901 and TAC Vista has been established, communication proceeds as if TAC Vista had been connected directly to the LonWorks® network. The dial-up can either be initiated by TAC Vista, or by the TAC Xenta 901 unit. TAC Xenta 901 has functions to reduce the connection cost, such as delaying a dial-up in order to collect more events, for example alarms, so that several events can be reported at the same call. It is also possible to specify dial-up to occur at a certain time of day, when the phone rates are lower.

FUNCTIONAL FEATURES

- Works as a dial-up LonTalk® adapter
- Line blocking at a preset number of failed dial-ups
- Functions for reducing dial-up costs
- Real time clock
- Daylight saving for Europe, USA / Canada
- Configured by TAC Xenta OP Operator Panel
- All configuration data, such as telephone numbers, are stored in a non-volatile memory

Supply voltage	24 V AC ±20%, 50 / 60 Hz or 19-40 V DC
Power consumption	max. 5 W
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Real time clock	
Accuracy at 25 °C (77°F)	±12 minutes per year
Data backup	72 h
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Communication	
Modem	9600 bps, RS232A, RJ45, 8-p
Network	LonWorks®, FTT-10, screw terminal
TAC Xenta OP	LonWorks®, FTT-10, modular jack

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0915-0 TAC Xenta 901
0-073-0902-0 TAC Xenta 400 terminal part
0-073-0907-2 TAC Xenta OP

TAC Xenta 911

The TAC Xenta 911 Communication device can be configured in one of two ways:

- as a LonTalk® adapter between TAC Vista and a LonWorks® network
- as an IP modem, working as a direct replacement for a telephone modem, with dial-up functionality over the computer network

In the first case, TAC Xenta 911 is either always connected to TAC Vista, or can use the "low bandwidth" configuration to allow many more networks connected to TAC VIsta.

In the latter case, TAC Xenta 911 is intended for use with most TAC units supporting dial-up (see the data sheet for TAC Xenta 911). The IP address of the "dialed-up" unit will then replace the telephone number. This makes it very easy to save money by eliminating telephone line costs. The fast dial-up time, typically less than two seconds, provides the feeling of a directly connected network.

The TAC Xenta 911 is quick to install and is easily maintained, using a web browser on the TCP/IP network. Its default values are set for TAC Xenta connection, and it is pre-configured for most TAC products.

The TAC Xenta 911 contains HTML pages providing comprehensive online help.

FUNCTIONAL FEATURES

- Works as a LonTalk® adapter over IP between TAC Vista and a LonWorks® network
- Supports TAC Xenta controllers and most TAC legacy products
- Configurable over an IP network with a standard web browser
- Pre-configured for most TAC products
- Real time clock
- All configuration data, such as telephone numbers, are stored in a non-volatile memory

SPECIFICATIONS

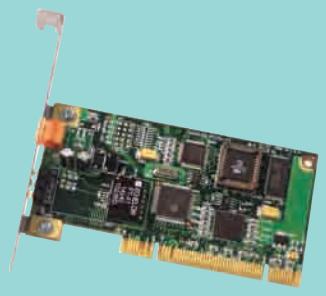
Supply voltage	24 V AC ±20%, 50 / 60 Hz or 19-40 V DC
Power consumption	max. 5 W
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Real Time Clock	
Accuracy at 25 °C (77°F)	±12 minutes per year
Data backup in event of power failure	72 h
Dimensions incl. base	90 x 110 x 77mm (3.5" x 4.3" x 3")
Communication	
Modem	2400 bps -57.6 kbps, RS232A, RJ45, 8-p (port A)
PC, configuration	RS232A, RJ45, 4-p (port B)
Network	LonWorks®, FTT-10, screw terminal
Ethernet	TCP/IP, 10base-T, RJ45

DESCRIPTION

0-073-0831-0 TAC Xenta 911
0-073-0902-0 TAC Xenta 400 terminal part

ACCESSORIES

0-073-0920-0 TAC Xenta: Programming Serial Kit



PC LonWorks® Adapter

PC interface card for connecting the LonWorks® network to a TAC Vista central system or to a network management tool.

- Interface between LonWorks® and PC
- Half-length card for PCI slots
- Complies with LonMark® Interoperability Guidelines
- Reliable connection

FUNCTIONAL FEATURES

- Standard PCI card
- Either for FTT-10 or TP/XF 1250

DESCRIPTION			
9-073-0010-1	PCLTA21-FTT-10	PCI	78 kBit/s
9-073-0011-1	PCLTA21-TP/XF 1250	PCI	1250 kBit/s

PCMCIA LonWorks® Adapter

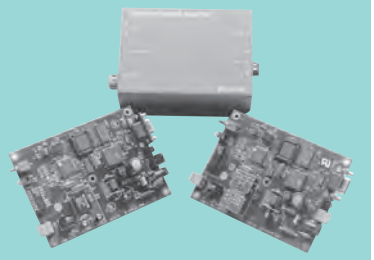
Interface card for connecting the LonWorks® network to a laptop using the PCMCIA interface.

- Interface between LonWorks® and PC (laptop)
- Type II PC card (PCMCIA)
- Complies with LonMark® Interoperability Guidelines
- Reliable connection

FUNCTIONAL FEATURES

- Standard PCMCIA for Laptop
- FTT-10 as standard

DESCRIPTION	
9-073-0005-0	PCC10 FTT-10 Interface Card 78 kBit/s
9-073-0006-0	PCC10 Cable



Serial LonWorks® Adapter

External LonWorks® interface for serial connection between equipment such as PCs and modems and the LonWorks® network. Can be wall mounted.

- Interface between LonWorks® and RS-232 interface
- External device, no plug-in slot in PC necessary

FUNCTIONAL FEATURES

- Easy access to a LonWorks network from an RS232 port
- 24 V AC/DC powered

SPECIFICATIONS

Power supply	9 - 30 V AC/DC
Power consumption	250 mA
Dimensions	138 x 101 x 34mm (5.4″ x 5″ x 1.3″)
Interfaces	9-pole DB-9, EIA-232
Network	LonWorks®, FTT-10

DESCRIPTION

9-073-0012-0 SLTA-10 FTT-10

TAC Xenta LonWorks® Repeater FTT-10, 24 V

A passive signal amplifier for extending the maximum bus length (twisted pair) and for setting up networks with more than 64 nodes.

- Passive signal amplification
- Completely network transparent
- Modular device design via TAC Xenta 400 enclosure
- Din rail or wall mounting

FUNCTIONAL FEATURES

- Easy mounting on DIN rail
- No configuration needed
- Extends the network
- Extends the number of nodes to 128 on a FTT-10 channel

SPECIFICATIONS

Operating voltage	24 V AC ±20%, 50 / 60 Hz
Power consumption	< 1.5 VA
Approved. ambient temp	0 - 50°C
Max. no. of nodes	64 (FTT-10 transceiver)
Interface	FTT-10, screw terminal
Dimensions incl. base	90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Enclosure rating	IP 20

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0912-0 TAC Xenta FTT-10 Repeater 24V
0-073-0902-0 TAC Xenta 400 terminal part

Termination

Terminating resistor for FTT-10 and TP/XF-1250 network segments.

DESCRIPTION

0-073-0905-1 Termination FTT-10
9-073-0020-0 Termination TP/XF-1250

TAC Xenta 913 LonWorks®/INET Gateway

The TAC Xenta 913 is a cost-effective way to integrate a large variety of products into a TAC network. The TAC Xenta 913 supports the most commonly used open protocols, such as MODBUS, BACnet and LonWorks®. It also supports some manufacturer-specific protocols, like I/NET and Clipsal C-bus.
The TAC Xenta 913 acts as a gateway, and transfers data point values from one network to another. Configuration is carried out using the TAC XBuilder programming tool.

FUNCTIONAL FEATURES

- Bridges the gap between protocols
- The key to seamless integration of different vendors' systems
- Direct communication with third party products at the field level
- Migration and update of systems without replacement of older equipment

Protocol	Description/ Model	Driver Description
BACnet	BACnet IP / MS-TP / PTP	BACnet is a standard protocol for building automation developed by ASHRAE. Supports BACnet ReadProperty and WriteProperty messages. Max. no. of devices: IP: 10, MS-TP: 30, PTP: 10
MODBUS/ J-Bus	MODBUS Master / Slave / TCP	Commonly used protocol by many PLCs and other equipment manufacturers. • Uses Poll-on-demand to extract data • RTU or ASCII Formats • Supports 01, 02, 03, 04, 05, 06 and 10 MODBUS functions Max. no. of devices: As Master: 31 Slaves, As Slave: 1 Master, TCP: 100
M-Bus	Metering Bus	M-Bus is a standard protocol for meters. Requires a hardware converteer between RS-232 and M-Bus such as Level-Converter PW20 from Relay GmbH. Max. no. of devices: 200
C-Bus	Clipsal bus	C-Bus is a proprietary communication protocol of Clipsal Lighting Control Systems. Max. no. of devices: 50
LonWorks®	FT-10	LonWorks® is a standard communication, extensively used in building automation. Up to 400 SNVTs or TAC Xenta network variables.
I/NET	Host LAN / Controller LAN	I/NET is a proprietary protocol for I/NET systems from TAC.

TAC Xenta 913

LonWorks®/INET Gateway (continued)

SPECIFICATIONS

Operating voltage . . . . . .24 V AC ±20%, 50/60 Hz or 19–40 V DC
Power consumption . . . . . .max. 5 W
Transformer sizing . . . . . .5 VA
Dimensions. . . . . .90 x 110 x 77mm (3.5″ x 4.3″ x 3″)
Enclosure rating . . . . . .IP 20

Real Time Clock
Accuracy at +25°C (77° F) . . . . .±12 minutes per year
Power failure protection. . . . . .72 h

Ambient Temperature
Storage. . . . . .–20°C to +50°C (–4°F to +122°F)
Operation . . . . . .0°C to +50°C (+32°F to +122°F)
Humidity . . . . . .max. 90% RH non-condensing

Communication
A: RS232 . . . . . .2400 – 57600 bps, RJ45, 8-p
A: RS485 . . . . . .2400 – 57600 bps, async. terminal block
B: RS232 . . . . . .RJ10, 4-p
C: RS485 . . . . . .sync. (SDLC) terminal block
LonWorks® . . . . . .TP/FT-10, terminal block
Ethernet . . . . . .TCP/IP, 10Base-T, RJ45

DESCRIPTION

0-073-0835-1 TAC Xenta 913

ACCESSORIES

0-073-0902-0 Terminal part TAC Xenta 400
0-073-0920-0 TAC Xenta: Programming Serial Kit

NIC-PCI
Network Interface

EIA-709 Network Interface with MNI (multiplexed network interface)
Supports FT-10, TP-1250/2500, RS-485
Connects to the PCI bus of a PC
Compatible with LNS, MIP, and ORION applications

DESCRIPTION

9-073-0066-0 LON® Network Interf.(NIC709-PCI)

FUNCTIONAL FEATURES

- Supports bus and free topology termination
- TP/FT-10 side can also be used to terminate link power channels
- screw terminals (0.5 - 2.5 mm²)
- 17 L x 90 W x 58mm H (0.7″ x 3.5″ x 2.3″)
- 1 TE DIN-rail (EN 50 022) mountable

LonWorks® Terminal Units

TP/FT-10,TP/LPT-10, and TP/XF-1250 networks need to be terminated using a defined network terminator. L-Term offers two standard network terminators in one slim housing, which makes them a perfect solution to be used with the active network infrastructure products (e.g. L-IP, L-Switch, etc.).

The LT-33 network terminator can be used to terminate two TP/FT-10 and TP/LPT-10 channels in bus or in free topology.

The LT-13 network terminator can be used to terminate one TP/XF-1250 and one TP/FT-10 or TP/LPT-10 channel.

TAC Part No.	Loytec Part No.	Description	Alternative Description
9-073-0068-0	LT-33	LON® terminal for 2 TP/FT-10, LT-33	LON® terminal, 2 x TP/FT-10 (bus or free topology)
9-073-0069-0	LT-13	LON® terminal TP-1250/-10, LT-13	LON® terminal, 1 x TP/XF-1250, 1 x TP/FT-10 (bus or free topology)

DESCRIPTION
9-073-0068-0 LON® term. for 2 TP/FT-10, LT-33
9-073-0069-0 LON® term. TP-1250 /-10, LT-13

LonWorks® LCD Display

L-VIS impresses by its timeless design, harmonic integration into modern and historical architecture as well as its extremely user friendly concept.

Any information can be shown in a pleasing style on the high resolution 320x240 color LCD touch display. The touch display offers easy navigation through the menu structure, but is also used to set temperatures, select light scenarios, move sun blinds, or send updates to network variables in the network. Network variables are dynamically created using LNS 3.x based tools (e.g. NL-220, ALEX, LonMaker®, etc.). The LNS plug-in supplied with the unit is used to create the menu structure and to design graphical pages in no time, which can be downloaded into L-VIS via the network connection. The LCD touch display shows numbers, text, bar charts, symbols, graphics, trend logs, and many other items in a clear way.

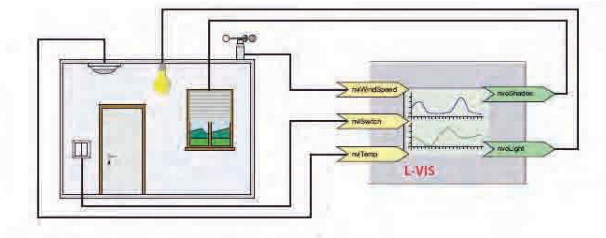
L-VIS can also be used in a switch cabinet. It can monitor and display important system parameters like energy consumption, alarms or the temperature in cold-storage rooms. Additionally L-VIS can control devices on the network by sending out network variables.

L-VIS can be connected to a TP/FT-10 or IP-852 Ethernet channel. The unit is fully compatible with the EIA-709 and the EIA-852 standards.

FUNCTIONAL FEATURES

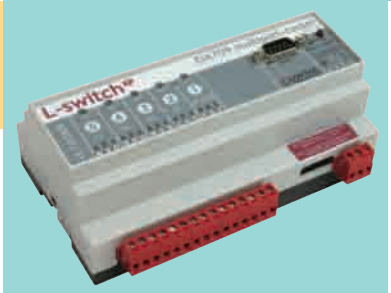
- Control and display panel for LonWorks® ANSI/EIA-709 networks
- Graphical user interface with touch display
- Clear and user friendly navigation menus
- High resolution 320x240 color LCD touch display with backlight, 256 colors (VGA)
- Representation of user defined graphics, numbers, text, bar charts, trend logs, and bitmaps
- Visualization of individual data points (NVs)
- Control of individual data points (NVs)
- Access control with PIN code
- Network ports: FT-10 and EIA-852 Ethernet (IP-852)
- Compatible with LNS applications in the fast VNI mode, e. g. NL220®, ALEX, LonMaker®
- Up to 512 input or output network variables can be processed
- Up to 512 destination addresses can be used
- Input voltage: 9-24V AC or DC
- Dimensions: W=210mm (8.3"), H=165mm (6.5"), D=60mm (2.4")

TAC Part No.	Loytec Part No.	Description	Alternative Description
9-073-0070-0	LVIS-3E100	LON® LCD display, LVIS-3E100	LonWorks® LCD Display LVIS-3E100 FT-10 and Ethernet



Sample L-VIS graphic

DESCRIPTION
9-073-0070-0 LVIS-3E100



LonWorks® Routers

The L-Switch Router is the solution to interconnect multiple LonWorks® (EIA-709) channels. It provides up to five ports and routes packets between these ports.

In spite of its small size the L-Switch router provides best class performance and flexibility in use. In order to provide the optimal router configuration the L-Switch supports 2 to 5 ports as well as the 2 operating modes "Smart Switch Mode" and "Configured Router Mode".

The Plug & Play installation capability of the L-Switch allows connection of L-Switch to the network without any further configuration.

The Smart Switch technology automatically detects the bit-rates of the connected channels, learns the configuration of the network (domains, subnet/node addresses, group addresses) and forwards the packets between the different ports of the L-Switch router.

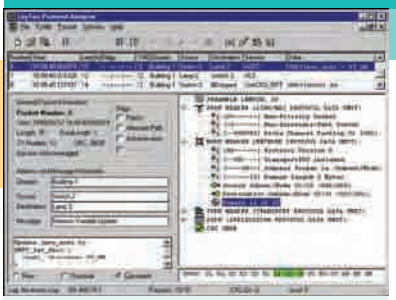
FUNCTIONAL FEATURES

- For physical separation and logical connection of up to 5 ANSI/EIA-709 network segments
- Can be used as configured router
- Can be used as learning switch or repeater
- Forwarding decision based on subnet/node and group addresses
- Processes up to 3500 packets/sec
- Supports multiple transceivers: FT-10/LPT-10, TP-1250
- Diagnostic LEDs for each channel showing network activity, overload, and error conditions
- DIN-rail (EN 50 022) or wall mountable

TAC Part No.	Loytec Part No.	Description	Alternative Description
9-073-0038-0	LS-33300C	LON® Multiport switch (LS-33300C)	LS-33300CB 3 x FT-10
9-073-0039-0	LS-13300C	LON® Multiport switch (LS-13300C)	LS-13300CB 1 x TP-1250 / 2 x FT-10
9-073-0040-0	LS-13333C	LON® Multiport switch (LS-13333C)	LS-13333CB 1 x TP-1250 / 4 x FT-10
9-073-0041-0	LS-11333C	LON® Multiport switch (LS-11333C)	LS-11333CB 2 x TP-1250 / 3 x FT-10
9-073-0049-0	LS-33CB	LON® Multiport switch (LS-33CB)	LS-33CB 2 x FT-10
9-073-0050-0	LS-13CB	LON® Multiport switch (LS-13CB)	LS-13CB 1 x TP-1250 / 1 x FT-10

DESCRIPTION

9-073-0038-0 LON® Multiport switch(LS-33300C)
9-073-0039-0 LON® Multiport switch(LS-13300C)
9-073-0040-0 LON® Multiport switch(LS-13333C)
9-073-0041-0 LON® Multiport switch(LS-11333C)
9-073-0049-0 LON® Multiport switch(LS-33CB)
9-073-0050-0 LON® Multiport switch(LS-13CB)



LPA Protocol Analyzer

The family of LPA Protocol Analyzers listens on LonWorks® (EIA-709) or LonWorks® over IP (EIA-852) networks and displays all recorded packets on a PC screen. Thanks to its extended recording capability even intermittent faults can be detected and recorded. The interpretation of an LNS® database allows the display of meaningful node names and network variable names. Together with L-IP Internet Routers or NIC709-IP network interfaces, the LPA software can record packets even from remote network channels. The intuitive and easy to use LPA software runs on all NIC709's and the LPA-IP software runs on the NIC-852. Each LPA or LPA-IP software license must be registered for one NIC.

For remote protocol analysis, the LPA software can be registered for an NIC709-IP, and the LPA-IP software can be registered for a NIC-852 to analyze the channel behind an L-IP or a NIC709-IP. The PC running either the LPA or the LPA-IP software is connected through its Ethernet port over the Intranet/Internet/VPN with the NIC709-IPs or the L-IP routers. Up to 8 channels can be analyzed concurrently using NIC709-IPs and up to 32 channels can be analyzed using L-IPs. The software runs under Windows 2000/XP.

LPA-IP

- Protocol analyzer software for EIA-852 (IP)
- NIC852 USB key for the PC

LPA-SET-USB

- Protocol analyzer software for EIA-852 (IP) and for EIA-709
- NIC852 USB key for the PC
- NIC709-USB key for the PC

TAC Part No.	Loytec Part No.	Description
9-073-0046-0	LPA-IP	LON® protocol analyzer (LPA-IP)
9-073-0047-0	LPA-SET-USB	LON® protocol analyzer (LPA-SET-USB)

LPA-SET-IP

FUNCTIONAL FEATURES

- Runs on Windows 2000/XP®
- Supports the LOYTEC Multiplexed Network Interface Technology (MNI)
- The LPA software supports both EIA-709 and LonMark® IP-852 on Ethernet
- Remote LPA function with LPA-IP and L-IP
- Online packet monitoring
- High resolution packet time-stamping
- Comprehensive packet filter functions on each layer of the network protocol
- Packet interpretation down to bit-level
- Conversion of network addresses and variables into symbolic names
- Interpretation of SNVTs (Standard Network Variable Types), network management, and diagnostic messages
- LNS database interpretation
- Error tracking in packets with protocol errors
- Various forms of packet visualization
- Extensive packet statistics (short packets, CRC errors, packets/s, etc.)
- Extended packet recording capability
- Storing and exporting packet logs (e.g. to Excel spread-sheets)

DESCRIPTION

9-073-0046-0 LON® protocol analyzer (LPA-IP)
9-073-0047-0 LON® protocol analyzer(LPA-SET-USB)

LonWorks® Network Interfaces, NIC

The NIC's are the world's fastest and most universal network interfaces for LonWorks® (EIA-709) and Ethernet (EIA-852) channels. Based on the revolutionary ORION and L-Chip technology, they offer the highest packet update rates and lowest response times on the market.

All NICs are fully compatible with legacy products, e.g. LonMaker®, NL220, ALEX, LNS 3.x applications, OPC servers, NodeUtil32, NLUtil, and with high performance ORION applications.

The multiplexed network interface (MNI) support allows, for the first time ever, multiple MIP applications to be started in parallel to an LPA or LSD Tool, or LonMaker®, or NL220 on a single network interface.

All NICs are fully compatible with legacy products, e.g. LonMaker®, NL220, ALEX, LNS 3.x applications, OPC servers, NodeUtil32, NLUtil, and with high performance ORION applications such as TAC Vista 4.4 and higher.

The NIC709-IP acts as a high performance remote network interface over the Intranet or the Internet. Secure communication between the NIC709-IP and the PC is supported by using MD5 authentication. Remote protocol analysis is supported by using the LPA-IP-SW software.

The NIC-852 supports MIP/LDV applications to access the IP-852 (Ethernet) channel without changing the application program.

FUNCTIONAL FEATURES

- Network Interface for EIA-709 and EIA-852 (IP-852) network channels.
- Best performance, highest packet throughput.
- Use the LPA, LSD Tool, your ORION applications, MIP applications, and LNS applications on a single network interface at the same time.
- Compatible with LNS applications in high performance VNI mode e.g. LonMaker®, NL220®, ALEX.
- Compatible with MIP applications (LDV interface) e.g. NodeUtil32, NLUtil , etc.
- Compatible with high performance ORION applications (ORION API).
- Software selectable transceivers on NIC709-USB and NIC709-PCI: FT-10/LPT-10, RS-485, and TP-1250/2500.
- Runs on Windows 98/ ME/2000/XP® (NIC709-USB, NIC709-PCI, NIC709-IP and NIC-852).

TAC Part No.	Loytec Part No.	Description	Alternative Ports
9-073-0065-0	NIC709-USB	LonWorks® network Interface NIC-USB	NIC709-USB USB port: FT, RS-485, TP-1250
9-073-0066-0	NIC709-PCI	LonWorks® network Interface NIC-PCI	NIC709-PCI PCI bus: FT, RS-485, TP-1250
9-073-0067-0	NIC852	LonWorks® network Interface EIA-852	NIC-852 Ethernet port: IP-852 (includes USB key)
9-073-0071-0	NIC709-IP1E	Network Interface NIC709-IP1E	NIC709-IP1E Ethernet port: TP-1250

DESCRIPTION

9-073-0065-0 LonWorks® network Interface NIC-USB
9-073-0066-0 LonWorks® network Interface NIC-PCI
9-073-0067-0 LonWorks® network Interface EIA-852
9-073-0071-0 Network Interface NIC709-IP1E

LonWorks® (EIA-709) – IP Routers Gateway

The L-IP fills the gap between LonWorks® (EIA-709) installations and IP networks. It can tunnel LonWorks® packets back and forth through an arbitrary IP-based network, such as a LAN, an Intranet, or even the Internet. The L-IP connects to the IP network via an Ethernet channel. Available LonWorks® transceivers include FT-10 and TP-1250.

The installation of an L-IP router requires little effort. The IP configuration can either be obtained via DHCP or entered manually. The user only needs to provide the IP address of an IP configuration server. If operated behind a router with network address translation (NAT or masquerading), the L-IP supports Auto-NAT to work with dynamic public IP addresses.

When using the built in IP configuration server, the user can edit and backup the IP channel configuration through the built-in web server. The configuration is stored continuously and the device operates completely standalone.

FUNCTIONAL FEATURES

- Routes packets between ANSI/EIA-709 and IP networks (10/100MBits/s Ethernet)
- LIP-3ECTB supports one FT-10 channel, LIP-1ECTB supports one TP-1250 channel, LIP-33ECTB supports 2 FT-10 channels, LIP-3333ECTB supports 4 TP-10 channels
- Tunneling of LonWorks® (ANSI/EIA-709) packets through IP (Ethernet) networks
- Configured Router Mode support
- Easy installation, Auto-NAT, roaming, DHCP
- Remote LPA support with LPA-IP
- Built in WEB server for LIP and IP-852 channel configuration
- SNTP support for time synchronization
- Network diagnostic LEDs

TAC Part No.	Loytec Part No.	Description	Alternative Ports
9-073-0044-0	LIP-1ECTB	LonWorks® network Interface NIC-USB	NIC709-USB USB port: FT, RS-485, TP-1250
9-073-0063-0	LIP-3ECTB	LON® router over IP (LIP-3ECTB)	LIP-3ECTB 1 x Ethernet / 1 x FT-10
9-073-0064-0	LIP-33ECTB	LON® router over IP (LIP-33ECTB)	LIP-33ECTB 1 x Ethernet, 2 x FT-10
9-073-0072-0	LIP-3333ECTB	LON® router over IP (LIP-3333ECTB)	LIP-3333ECTB 1 x Ethernet, 4 x FT-10
9-073-0043-0	LP-13333CT	LON® Multiport gateway (LP-13333CT)	LIP-1333ECTB 1 x TP/XF1250, 4 x FT-10

DESCRIPTION

9-073-0044-0 LON® router over IP (LIP-1ECTB)
9-073-0043-0 LON® Multiport gatew (LP-13333CT)
9-073-0063-0 LON® router over IP (LIP-3ECTB)
9-073-0064-0 LON® router over IP (LIP-33ECTB)
9-073-0072-0 LON® router over IP (LIP-3333ECTB)

Operator Panels

Xenta
Operator Panels

- Presents variables and parameters on the network
- No configuration required
- Enables access to the entire network via a local connection
- Provides the possibility of publicly displaying data of common interest, such as the outdoor temperature

The TAC Xenta Operator Panel is a compact, and versatile display unit, which can be mounted in a cabinet or used hand-held. It provides access to values and parameters across the entire network - of particular value during installation and maintenance work. Any TAC Xenta 280/300/400 can be accessed from anywhere on the network. The user has a full overview of the installation, and the possibility to read and write parameters, time schedules and local settings.

The TAC Xenta OP 1500 is a rugged PC designed for industrial applications, and incorporates a 15" color touch screen. The OP 1500 provides a graphical presentation of the system, similar to TAC Vista graphics, without the need for a desktop PC. Installed in a public location, it can be used to control and monitor light levels, blinds and other HVAC devices, and can display suitable data in any way the user requires.

Operator Panels

TAC Xenta Operator Panel

For convenient local operation of TAC Xenta controllers. Input is via 6 control keys and information is displayed in the clear LCD display. The LCD display's background lighting can be switched off if required by changing the relevant parameter. The operator panel is connected to the controller with a plug-and-socket connection and supplied with power through the cable connector. It can also be directly connected to the LonWorks® network.

The user can access all controllers connected to the network from one connection. The operator panel allows the current operating status to be checked and allows changes to be made to setpoints, time schedules etc., without connecting to a central system. In addition to allowing mobile deployment, the unit also supports the convenient plug-in installation to a TAC Xenta controller or can be mounted into the switchgear cabinet door. Modern and functional design. Compliant with TAC Xenta 100, TAC Xenta 280, TAC Xenta 300 and TAC Xenta 401.

FUNCTIONAL FEATURES

- Local access to entire network
- Intuitive navigation
- Access levels for differentiated control and supervision
- Portable and easy to plug in on any TAC Xenta 280/300/400
- Monitors variables in a TAC Xenta 100

SPECIFICATIONS

Operating voltage	24 V AC/DC from TAC Xenta or external
Power consumption	max. 0.5 W
Dimensions incl. base	114 x 96 x 34mm (4.5″ x 3.8″ x 1.3″)
Protocol	FTT-10, LonTalk
Transmission rate	78 kbits/s

Ambient Temperature

Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing

Display	4 X 20 characters alpha-numerical, backlit
Type of protection	IP 20 / IP 43

For further specifications, see technical data sheet.

DESCRIPTION

0-073-0907-2 TAC Xenta OP Operator Panel
0-073-0904-0 TAC Xenta OP mounting kit panel

ACCESSORIES

0-073-0904-0 TAC Xenta OP mounting kit panel

Operator Panels

TAC Xenta OP 1500

The TAC OP 1500 is a rugged PC designed for industrial applications. It is built around an IP65 front panel with a 15" color TFT LCD screen and a high-definition analog touch panel.

The TAC OP 1500 is used as a web client for TAC Vista Webstation, TAC Xenta 511, or other information systems. It is compact and easy to install and setup. No software installation is required. Once connected it is ready to run.

For user convenience, the browser start page and/or favorites can easily be configured to suit the current installation.

TAC OP 1500 has an Ethernet port and communicates with the system over IP networks. Adobe Acrobat Reader® and Microsoft Office Viewers are pre-installed to enable users to view documents in these formats on the device. Also, the device is prepared with the correct Java Runtime Environment for use with TAC Xenta 511. The TAC OP 1500 is delivered with a power supply.

FUNCTIONAL FEATURES

- Rugged 15" LCD display
- High resolution touch screen
- Easy installation
- Built-in reader for pdf, doc, xls and ppt.
- JVM (Java Virtual Machine) installed
- Powered by a 24V AC/DC converter (included)

SPECIFICATIONS

Supply voltage	24 V DC (19.2 – 28.8 V DC)
Power consumption	max. 80 W
Transformer sizing	80 VA
Ambient temperature	
Storage	-10 °C to +60 °C (14 °F to +140°F)
Operation	0 °C to +45 °C (32 °F to +113 °F)
Humidity	max. 85% RH non-condensing
Mechanical	
Enclosure	Hardened steel
Enclosure rating, front panel	P 65
Dimensions	395 X 294 X 67mm (outer frame) (15.6" x 11.6" x 2.6)
Weight	6.0 kg (13.2 lbs)
Built-in I/O ports	
Ethernet TCP/IP	RJ45 10BASE-T/100BASE-TX link

DESCRIPTION

0-073-0924-0 TAC OP 1500 incl Power Supply

Air Handling Controllers

TAC
Air Handling Controllers

The TAC 2000 ventilation controller family provides a series of advanced system solutions for control, monitoring and supervision of air handling units in buildings. The software package In TAC 2000 Viewer is used to monitor and supervise the controller.

Air Handling Controllers

FUNCTIONAL FEATURES

- Easy to operate with clear symbols
- Complete solution in one box
- Built-in Time Scheduling: weekly and yearly programs
- Alarm handling. A and B alarms
- Pump Control energy savings
- Outdoor compensation by adjustable curve

TAC 2411, 2412 and 2413

The TAC 2000 family now includes a series of advanced system solutions for air handling. They are complete solutions for complete control, monitoring and supervision of air handling units in buildings.

The following controllers are available:

- TAC 2411 offers a rational and efficient solution to air handling where the heating coil controls the room or supply air temperature.
- TAC 2412 has extended functionality. The room or supply air temperature is controlled in sequence using the heating coil and heat recovery.
- TAC 2413 is the most advanced controller. The room or supply air temperature is controlled in sequence using the heating coil, heat recovery and the cooling coil.

SPECIFICATIONS

Power supply . . . . . 24 V AC ±20 %, 50–60 Hz
Power consumption . . . . . 3 W

Ambient Temperature
Storage. . . . . –20 °C to +50 °C (–4 °F to +122 °F)
Operation . . . . . 0 °C to +50 °C (32 °F to +122 °F)
Humidity . . . . . max. 90% RH non-condensing

Real Time Clock
Accuracy . . . . . 16 minutes/year at +25 °C (77°F)
Memory backup. . . . . 48 hours

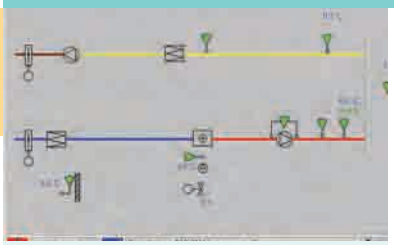
Color . . . . . grey/red/transparent
Weight . . . . . 0.7 kg
Dimensions B x H x D . . . . . 144 x 96 x 96mm
(5.7"x 3.8"x 3.8")
Material . . . . . ABS/PC plastic
Enclosure rating . . . . . IP 40

DESCRIPTION

200-3101-000 TAC 2411 Swedish/Finnish
200-3103-000 TAC 2411 Danish
200-3051-000 TAC 2412 Swedish/Finnish
200-3053-000 TAC 2412 Danish
200-3001-000 TAC 2413 Swedish/Finnish/English
200-3003-000 TAC 2413 Danish

ACCESSORIES

0-073-0904-0 TAC Xenta OP mounting kit panel



TAC 2000 Viewer

TAC 2000 Viewer is a PC-based presentation system for all controllers in the TAC 2000 Ventilation Family (TAC 2411, TAC 2412 and TAC 2413). It is an effective tool for commissioning, operation, and fault finding in air handling systems. By connecting the TAC 2000 Viewer to the controller, you can easily and quickly access all important information in the air handling system.

The tool can present information in four different forms:

- Graphical presentation of the air handling unit
- List of parameters
- Trend log data
- Status of inputs and outputs

All forms are predefined and ready to use. No expensive engineering is needed. Furthermore the information can be printed. The status of the controller, alarms and communication are displayed on the screen.

- Language: Swedish
- Modem: Hayes compatible, 4800 bps

Minimum System PC requirement:

- Windows 95 operating system
- 4 MB RAM memory
- 2 MB Hard disk
- 3.5" Diskette
- 9-D sub serial port

FUNCTIONAL FEATURES

- Dynamic Colorgraphic
- Trend log viewer
- List of all parameters in the controller
- Status of In- and outputs
- Direct connection or dialed up via modem
- Windows 95 or later

DESCRIPTION

200-1910-000 InTA 2000V (Connector)

Heating Controllers

TAC
Heating Controllers

TAC offers a series of heating controllers with and without communication possibilities. All control the radiator system according to an outdoor temperature-compensated reset curve and a reference sensor. The controllers also control the domestic hot water.

TAC 2112

The TAC 2112 offers control of hot water heating systems. The radiator circuit is controlled according to an outdoor temperature-compensated reset curve and reference sensor.

Simple symbols, a clear LCD display and a minimum number of buttons make it easy to read and change the values. There are three adjustable curve points where you can adjust the reset curve exactly to suit different heating systems.

FUNCTIONAL FEATURES

- Automatic adjustment of the reset curve
- Ramp limitation of supply setpoint
- Control of room temperature via reference sensor
- Weekly program for night setback
- Separate weekly program for external equipment
- Holiday program
- Variable night setback and morning heating
- Optimized changeover from daytime operation to night setback
- Pump control with exercise function
- External setpoint adjustment (SPC control)
- Extended daytime operation and forced night setback from an external unit
- Alarm

SPECIFICATIONS

Power supply	24 V AC +20%, 50–60 Hz
Power consumption	3W
Dimensions	144 x 96 x 96mm (5.7″ x 3.8″ x 3.8″)

Ambient Temperature

Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing

Real Time Clock

Accuracy at +25°C (77° F)	±12 minutes/year
Backup memory	48 hours

Thermistor Inputs

Type of thermistor	1800 ohm/ 25°C (+77° F)
Measurement range	–50°C to +120°C (-58° F to + 248° F)

Relay Outputs

Max. voltage	250 V AC
Max. current	2 A

Inputs

Sensor inputs B1-B4, U1, U4 thermistor input (see above)

Setpoint adjustment (SPC), U2	0–10 V DC
Additional connection to outdoor temp., Y2	0–10 V DC
Enclosure rating	IP 40, front IP 54

DESCRIPTION

200-2201-000 TAC 2112 Swedish Controller
200-2202-000 TAC 2112 Danish Controller
200-2203-000 TAC 2112 Swedish/Finnish Controller
200-2204-000 TAC 2112 GB Controller

Heating Controllers

TAC 2222

The TAC 2222 offers combined heating and domestic hot water control for hot water heating systems. The radiator circuit is controlled according to an outdoor temperature compensated reset curve and reference sensor. The domestic hot water is controlled by using a separate constant temperature controller.

Simple symbols, a clear LCD display and a minimum number of buttons make it easy to read and change the values. There are three adjustable curve points where you can adjust the reset curve exactly to suit different heating systems. A reference sensor is used to adjust the reset curve and the duration and the night setback automatically. Adjustments resulting from seasonal variations are automatic.

FUNCTIONAL FEATURES

- Automatic adjustment of the reset curve
- Ramp limitation of supply setpoint
- Control of room temperature via a reference sensor
- Weekly program for night setback
- Separate weekly program for domestic hot water and external unit
- Holiday program for heating and domestic hot water
- Variable night setback and morning heating
- Optimized changeover from daytime operation to night setback
- Separate limitation of return temperature of heating and domestic hot water
- Pump control with exercise function
- Heat control using an external unit (SPC control)
- Extended daytime operation and forced night setback from an external unit
- Domestic hot water control
- Alarm

SPECIFICATIONS

Power supply	24 V AC +20%, 50-60 Hz
Power consumption	3W
Dimensions	144 x 96 x 96mm (5.7″ x 3.8″ x 3.8″)
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Real Time Clock	
Accuracy at +25°C (77°F)	+12 minutes/year
Backup memory	48 hours
Enclosure rating	IP 40, front IP 54
Thermistor Inputs	
Type of thermistor	1800 ohm/25 °C (+77°F)
Measurement range	–50 °C to +120 °C (-58° F to + 248° F)
Relay Outputs	
Max. voltage	250 V AC
Max. current	2 A
Inputs	
Sensor inputs B1-B4, thermistor input (see above)	
Heat adjustment (SPC)	0–10 V DC
Domestic hot water valve	0-10 V DC or 2–10 V DC
Additional connection to outdoor temp	0–10 V DC

DESCRIPTION

200-2051-000 TAC 2222 Swedish Controller
200-2052-000 TAC 2222 GB Controller
200-2053-000 TAC 2222 Danish Controller
200-2054-000 TAC 2222 Swedish/Finnish Controller

TAC 2232
District Heating Compensator/ Optimizer

The TAC 2232 offers combined heating and domestic hot water control for hot water heating systems. The controller is intended for three stage district heating. The radiator circuit is controlled according to an outdoor temperature-compensated reset curve and reference sensor. The domestic hot water is controlled by using a separate constant temperature controller.

FUNCTIONAL FEATURES

- Automatic adjustment of the reset curve
- Ramp limitation of supply setpoint
- Control of room temperature via reference sensor
- Weekly program for night setback
- Separate weekly program for domestic hot water and external unit
- Holiday program for heating and domestic hot water
- Variable night setback and morning heating
- Optimized changeover from daytime operation to night setback
- Temperature limitation from the radiator circuit
- Pump control with exercise function
- Heat control using an external unit (SPC control)
- Extended daytime operation and forced night setback from an external unit
- Domestic hot water control
- Alarm
- Automatic adjustments resulting from seasonal variations

SPECIFICATIONS

Power supply . . . . . 24 V AC +20%, 50-60 Hz
Power consumption 3W
Dimensions . . . . . 144 x 96 x 96mm (5.7″ x 3.8″ x 3.8″)

Ambient Temperature
Storage . . . . . –20 °C to +50 °C (–4 °F to +122 °F)
Operation . . . . . 0 °C to +50 °C (32 °F to +122 °F)
Humidity . . . . . max. 90% RH non-condensing

Real Time Clock
Accuracy at +25°C (77°F) . . . . . ±12 minutes/year
Backup memory . . . . . 48 hours
Enclosure rating . . . . . IP 40, front IP 54

Thermistor Inputs
Type of thermistor . . . . . 1800 ohm/25°C (+77°F)
Measurement range . . . . . –50°C to +120°C (-58° F to + 248° F)

Relay Outputs
Max. voltage . . . . . 250 V AC
Max. current . . . . . 2 A

Inputs
Sensor inputs B1-B4 . . . . . thermistor input (see above)
Heat adjustment (SPC), U2 . . . . . 0–10 V DC
Domestic hot water valves . . . . . 0-10 V DC or 2–10 V DC

DESCRIPTION

200-2301-000 TAC 2232 Controller, incl. Swedish documentation

TAC 2242 Heating Compensator/ Optimizer

The TAC 2242 offers combined heating and domestic hot water control for hot water heating systems. The radiator circuit is controlled according to an outdoor temperature compensated reset curve and reference sensor. The domestic hot water is controlled by using a separate constant temperature controller.

Simple symbols, a clear LCD display and a minimum number of buttons make it easy to read and change the values. There are three adjustable curve points where you can adjust the reset curve exactly to suit different heating systems. A reference sensor is used to adjust the reset curve and the duration and the night setback automatically. Adjustments resulting from seasonal variations are automatic.

FUNCTIONAL FEATURES

- Automatic adjustment of the reset curve
- Ramp limitation of supply setpoint
- Control of room temperature via reference sensor
- Weekly program for night setback
- Separate weekly program for domestic hot water and external unit
- Holiday program for heating and domestic hot water
- Variable night setback and morning heating
- Optimized changeover from daytime operation to night setback
- Separate limitation of return temperature of heating and domestic hot water
- Pump control with exercise function
- Heat control using an external unit (SPC control)
- Extended daytime operation and forced night setback from an external unit
- Domestic hot water control
- Alarm

SPECIFICATIONS

Power supply	24 V AC +20%, 50-60 Hz
Power consumption	3W
Overall dimensions	144 x 96 x 96mm (5.7″ x 3.8″ x 3.8″)
Ambient Temperature	
Storage	–20 °C to +50 °C (–4 °F to +122 °F)
Operation	0 °C to +50 °C (32 °F to +122 °F)
Humidity	max. 90% RH non-condensing
Real Time Clock	
Accuracy at +25°C (77°F)	±12 minutes/year
Backup memory	48 hours
Enclosure rating	IP 40, front IP 54
Thermistor Inputs	
Type of thermistor	1800 ohm/25 °C (+77°F)
Measurement range	–50°C to +120°C (-58° F to + 248° F)
Relay Outputs	
Max. voltage	250 V AC
Max. current	2 A
Inputs	
Sensor inputs B1-B4 thermistor input (see above)	
Heat adjustment (SPC)	0–10 V DC
Domestic hot water valve	0-10 V DC or 2–10 V DC
Additional connection to outdoor temp.	0–10 V DC

DESCRIPTION

200-2455-000 TAC 2242 Controller

TAC 2321
District Heating Compensator

The TAC 2321 offers combined heating and domestic hot water control for district heating systems. The radiator circuit is controlled according to an outdoor temperature compensated reset curve and reference sensor. The domestic hot water is controlled by using a separate loading controller.

Simple symbols, a clear LCD display and a minimum number of buttons make it easy to read and change the values. The reset curve has four adjustable curve points which mean that you can adjust it exactly to suit different heating systems. A reference sensor is used to adjust the reset curve and the duration and magnitude of the night setback automatically. Adjustments resulting from seasonal variations are fully automatic.

FUNCTIONAL FEATURES

- Automatic adjustment of the reset curve
- Ramp limitation of supply setpoint
- Control of room temperature via reference sensor
- Weekly program for night setback
- Separate weekly program for domestic hot water and hot water circulation pump
- Weekend program for heating and domestic hot water
- Variable night setback and morning heating
- Optimized changeover from daytime operation to night setback and vice versa
- Separate limitation of return temperature of heating and domestic hot water
- Pump control with exercise function
- Heat adjustment from a remote control unit (accessory)
- Extended daytime operation and forced night setback from an external unit, or from the panel
- Domestic hot water control with adjustable high temperature function (to eliminate the risk of legionella)
- Power limitation
- Alarm

SPECIFICATIONS

Power supply . . . . . 230 V AC ±10%, 50–60 Hz
Power consumption 5W
Overall dimensions. . . . . 144 x 96 x 96mm (5.7″ x 3.8″ x 3.8″)

Real Time Clock
Accuracy at +25°C (77° F) . . . . . ±12 minutes/year
Backup memory . . . . . 48 hours
Enclosure rating . . . . . IP 40, front IP 54

Ambient Temperature
Operating. . . . . 0°C to +50°C (32°F to +122 °F)
Storage. . . . . –20°C to +50°C (–4°F to +122 °F)
Ambient humidity . . . . . max. 90% RH non-condensing

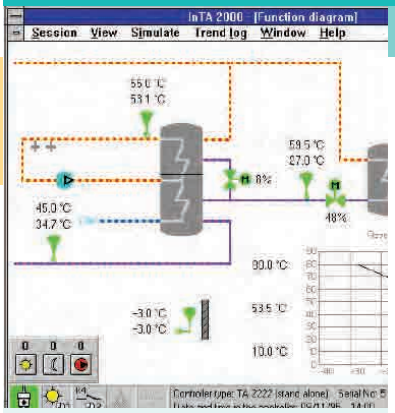
Thermistor Inputs
Thermistor type . . . . . 1800 ohm/25 °C (77 ° F)
Measurement range. . . . . –30°C to +120°C (–22°F to +248°F)

Relay Outputs
Max. voltage . . . . . 250 V AC
Max. current . . . . . 2 A

Inputs
Sensor inputs - thermistor input (see above)
Remote control unit . . . . . 0–10 V DC
Dom. hot water valve. . . . . 0–10 V DC or 2–10 V DC
Additional connection to outdoor temp., Y2 0–10 V DC

DESCRIPTION

200-2103-000 TAC 2321 Controller



TAC 2000 Viewer for TAC 2000 Heating Controllers

TAC 2000 is a PC-based information tool intended for commissioning, operation and troubleshooting in heating systems with controllers belonging to the TAC 2000 family. By connecting a PC running TAC 2000 Viewer to a TAC 2000 controller, you get a quick and clear overview of the controller and the controlled heating application. All measured and setpoint values are shown in clear function diagrams. The controller's parameters are shown together with its reset curves in clear forms. The pictures and forms are complete, which saves time, since you do not need to configure anything or work on the picture layout.

The TAC 2000 Viewer supports the TAC 2112, 2222, 2242, and 2321 controllers.

- Language: Swedish, English, German
- Modem: Hayes compatible, 4800 bps

System requirements, PC

- Windows™ 95 or later
- Min. 4 MB Internal memory
- Min. 2 MB Hard disk space
- One 3 1/4" diskette drive
- One 9 pin serial port

FUNCTIONAL FEATURES

- Dynamic Colorgraphic
- Trend log viewer
- List of all parameters in the controller
- Status of In- and outputs
- Direct connection or dialed up via modem
- Windows™ 95 or later

DESCRIPTION

200-1900-000 InTA 2000 (Connector)

TAC 200 Reset Controller

TAC 200 is an Outdoor Reset Controller for outdoor reset control of heating systems. It can be used for conventional supply temperature control of mixing valve systems for radiator or floor heating. It can also be used for two or three stage on/off control of gas boilers.

With a room sensor, automatic reset of the supply temperature from the room temperature can be obtained. Great flexibility in adjusting the reset curve – a number of curves are available for each individual application – enables optimum matching to the pertinent heating system.

The TAC 200 has high and low limits for the supply temperature. Reading and adjusting values is easy thanks to a display window and push buttons on the front of the controller.

FUNCTIONAL FEATURES

- Outdoor reset control
- Control of mixing valve systems for radiator or floor heating.
- Functions for two or three stage on/off control of gas boilers.
- Night setback and morning boost
- Pump control
- Day and week scheduling
- Daylight saving function
- Easy program selection with dip switches

SPECIFICATIONS

Power supply voltage . . . . . 220-230 V AC ±10%, 50-60Hz
Power consumption . . . . . 2 VA
Dimensions. . . . . 144 x 96 x 96mm (5.7" x 3.8" x 3.8")

Real Time Clock
Accuracy . . . . . max. dev. 12 min./year at +25 °C (77 ° F)
Backup memory . . . . . 12 hours

Ambient Temperature
Operation . . . . . 0 °C to +50 °C (32 °F to 122 ° F)
Storage. . . . . –20 °C to +50 °C (-4 °F to 77 °F)
Ambient humidity . . . . . max. 90% RH, non-condensing
Protection . . . . . IP 40
Application selection . . . . . DIP switch with 8 switches

Digital Inputs
Quantity 3

Analog Inputs
Quantity 3
Thermistor type . . . . . 1800 ohm/25 °C (77 ° F)

Relay Outputs
Quantity 4
Function. . . . . making (NO)
Voltage rating . . . . . max. 250 V AC
Load rating. . . . . 2 A, min. 50 mA at 24 V

DESCRIPTION

200-1000-000 TAC 200
200-1001-000 TAC 200 wo back
200-1002-000 Wall mounting unit TAC 200
200-1003-000 TAC 200 V

TAC 200 OPT
Heating Compensator and Optimizer

TAC 200 OTP is a heating compensator complete with optimizer control of the boiler. It can be used for conventional supply temperature control of mixing valve systems for radiator or floor heating. It can also be used for two stage on/off control of gas boilers.

With a room sensor, automatic reset of the supply temperature from the room temperature can be obtained. Great flexibility in adjusting the reset curve – a number of curves are available for each individual application – enables optimum matching to the pertinent heating system. TAC 200 OTP has high and low limits for the supply water temperature.

The controller has a built-in safety function with three stages of frost protection. Reading and adjusting values is easy thanks to a display window and push buttons on the front of the controller.

FUNCTIONAL FEATURES

- Outdoor-reset control
- Automatic calculation of the reset curve from a room sensor
- Control of mixing valve systems for radiator or floor heating
- Functions for two or three stage on/off control of gas boilers
- Night setback and morning boost
- Pump control
- Day and week scheduling
- Daylight saving function
- Easy program selection with dip switches

SPECIFICATIONS

Power supply voltage	220–230 V AC±10%, 50–60 Hz
Power consumption	2 VA
Dimensions	14 x 96 x 96mm (5.7″ x 3.8″ x 3.8″)
Real Time Clock	
Accuracy	max. dev. 12 min./year at +25°C (77°F)
Backup memory	12 hours
Ambient Temperature	
Operation	0 to +50 °C (32 to +77°F)
Storage	–20 to +50 °C (-4 to +122°F)
Ambient humidity	max. 90% RH, non-condensing
Protection	IP 40
Application selection	DIP-switch with 8 switches
Digital inputs	2
Analog inputs	3
Thermistor type	1800 ohm/25 °C (77°F)
Relay Outputs	
Number of outputs	4
Function	making (NO)
Voltage rating	max. 250 V AC
Load rating	2 A, min. 50 mA at 24 V

DESCRIPTION

200-1005-000 TAC 200 OPT

TAC 239W
Domestic Hot Water Temperature Controller

The TAC 239W controller is part of the C80 system and is designed for the control of domestic hot water systems. The output is a 2–10 V or a 0–10 V signal, which can position one or up to 10 actuators of the EM type in parallel. The setpoint can be increased or decreased via the SPC input.

For best results, the TAC 239W should be used in combination with a fast temperature sensor.

FUNCTIONAL FEATURES

- Controller for domestic hot water
- Output 2-10V or 0-10V
- SPC input for remote setpoint adjustment

SPECIFICATIONS

Supply voltage	16 V DC ±0.4 V, 24 V AC ±20%, 50–60 Hz
Power consumption	max. 25 mA
Dimensions	127 x 54 x 74mm
Temperature sensor	1800 ohm/25 °C (77 ° F)
Control Output Y	
Output voltage	2–10 V or 0–10 V, direct acting
Load	max 2 mA; max. 10 control inputs, short circuit proof
Control Input Z1	
Permitted voltage	max. 16 V DC
Input current	max. 0.1 mA
Ambient Temperature	
Operation	0 to +50°C (32 to +122 ° F)
Storage	–40 to +50°C (-40 to +122 ° F)
Ambient humidity	max. 90% RH
Enclosure Rating	
Cover	IP 54 (similar to NEMA 13)
Terminals	IP 31 (similar to NEMA 1)

DESCRIPTION

239-1010-800 TAC 239W with cassette and terminal block

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